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ABSTRACT

As reading plays a major role in the continuing education of a physician, relevancy to practice of the material selected by editors and ultimately read will theoretically result in an improvement of the continuing education process. If the selection criteria could be consistent for the writer, the editor, and the reader, then the message has a better chance of attaining its objectives. It has been the aim of this contract to establish and test criteria which can enable the journals to more easily fill their role as the vehicles for conveying the message, and thereby to improve both the continuing education process potential and the resultant quality of patient care. This study addressed itself to the development and evaluation of criteria for use in assessing the clinical relevance of journal articles to the information needs of practitioners in several clinical categories. (Author/SJ)

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Contract No. NIH 70-4042

Clinically Relevant Literature Study

"Conduct a study of criteria for journal
article selection relevant to clinical medicine."

FINAL REPORT

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Submitted to:

Bureau of Health Manpower Education
National Institutes of Health
Department of Health, Education and Welfare

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INTRODUCTION

As reading plays a major role in the continuing education of a physician, relevancy to practice of the material selected by editors and ultimately read will theoretically result in an improvement of the continuing education process. If the selection criteria could be consistent for the writer, the editor, and the reader, then the message has a better chance of attaining its objectives. It has been the aim of this contract to establish and test criteria which can enable the journals to more easily fill their role as the vehicles for conveying the message, and thereby to improve both the continuing education process potential and the resultant quality of patient care.

The conscientious medical practitioner has always faced a formidable task in satisfying his need and desire to remain abreast of current medical knowledge. His problem has been intensified by the explosion of scientific knowledge in recent years. The accompanying proliferation of medical literature has brought with it new or broadened areas of immediate relevance to his practice. As a consequence, the practicing physician is frustrated by having to devote an increasingly disproportionate amount of his available reading time to screening the mass of published material for those bits of information most critical to his needs.

In an address to the Patient Care Section of the American Federation for Clinical Research, Lewis Miller and Edward Felder note an apparent lack of positive relationship between the proliferation of medical literature and its patient care pertinence:

> "Communication in medicine has remained more of a traditional art than an evolving science. Medical journals in particular have been edited in the same stultifying pattern for decades. Progress has been marked more by proliferation than by pertinence, and one cannot help but wonder whether--in terms of improved patient care--the information explosion in medicine is contributing more to the waste-paper pile than to sharpening the clinician's ability to provide care for his patients."

In addition to its rapidly increasing volume, the medical literature confronts the average practitioner seeking clinically relevant information with yet another problem. The vast majority of published medical literature is intended primarily to communicate horizontally rather than vertically; i.e., typically, communication from academically or research oriented specialists to a limited audience of their peers, with useful fallout to average front line practitioners viewed as little more than an incidental objective.

Miller and Felder underscore this observation and offer an explanation of its origin:*

> "Probably the primary defect of the traditional medical journal in this context is its inability to bridge the gap between the producers of knowledge and the users of knowledge....The reason for this is that most medical journals are edited by and for the producers of knowledge rather than and for the users.
>
> The medical author is usually motivated to publicize the results of his particular studies into specific disease entities or therapeutic modalities. He wants to report what's new and, hopefully, startlingly different. His writing

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* Lewis A. Miller and Edward A. Felder, M.D. "Patient Care Orientation in a Journal"; paper presented at the Patient Care Section, American Federation for Clinical Research, Atlantic City, N. J., May 5, 1968.

> is rewarded by men working in his own field. He is therefore more interested in impressing them than he is in communicating useful information to a wider audience whose interest in his subject is radically different from that of his own peer groups."

Medical editors, too, are parties to this process (perhaps characterizable as a de facto conspiracy of "benign neglect", to borrow a phrase from Daniel Patrick Moynihan) for it is they who regulate the production gates of the medical literature mills. Miller and Felder seemingly concur with this view and state:

> "The medical editor is interested in maintaining the reputation of his journal as one that carries the most weight in its field. Unfortunately, 'weight' is often defined as getting first crack at papers from outstanding authors in the field, not as serving the best interests of improved patient care. The medical editor seeks, as he should, to challenge the validity of statistical data, methodology and conclusions. Unfortunately, he does not always apply the same vigorous challenge to the value of the data and conclusions in the care of patients."

There is yet another dimension to the barriers operating to thwart the information seeking behaviors of harried practitioners: a lack of effective mechanisms to facilitate the screening, identifying or differentiating from the whole of that fragment of the medical literature which does have immediate clinical relevance and potential patient care payoff. While some journals, such as _Patient Care_, _Modern Medicine_, and _Medical Economics_, have attempted to improve the effective communication potential of their publications, and still others such as the _New England Journal of Medicine_, the _Journal of the American Osteopathic Association_, and a few others innovated through the use of abstract cards and various types of summaries, no publication has yet established suitable criteria to permit the identification of articles most relevant to the clinical information needs of various groups of practicing physicians. The Core Medical Library,*developed by Postgraduate Medical Institute (PMI), is one attempt to present an organized, easily accessible set of books and journals encompassing the clinical practice of medicine. However, even this highly select collection presents a formidable amount of material for regular and effective review.

In an editorial welcoming the advent of *Abridged Index Medicus* the New England Journal of Medicine ventured that a succinct statement of the problem would be that, "... everyone complains about the medical literature, even those who issue it. It is too massive, too repetitive, too unmanageable ..."** Not content with merely highlighting the problem, and heralding *Abridged Index Medicus* (AIM), NEJM concluded that additional efforts still were indicated and coined the phrase "committed selection" to label a direction which warranted further research and development:

> "...Alleviation of all these stigmata of monstrosity is not easy, but one feasible approach is that of 'committed selection.' Someone has to stick out his neck and say, 'Look, here is a selected and convenient list of reading matter that we recommend.' The recommendation cannot be guaranteed as optimum, and it certainly requires continuous review. Yet the principle should be vigorously applied in several directions. A good example of such an application is the identification by Stearns and Ratcliff

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* Committed Selection: Abridged Index Medicus (editorial), New England Journal of Medicine, Vol. 282, No. 4, Jan. 22, 1970.

** Stearns, N.S., & Ratcliff, W.W. A Core Medical Library for Practitioners in Community Hospitals. New England Journal of Medicine, Vol. 280, 1970, pp. 474-480.

> of a core library. The opinions of the NAS-NRS panels concerning the usefulness of certain antibiotic preparations is another instance of committed selection--controversial, not infallible, but unavoidable. AIM now continues this useful trend. Clearly, committed selection will have to be applied elsewhere: to the identification of outstanding and useful articles in given clinical categories, ..."

It is to the last point that the current project has been addressed: the development and evaluation of criteria for use in assessing the clinical relevance of journal articles to the information needs of practitioners in several clinical categories.

However, in contemplating the development of a system of criteria to evaluate the clinical relevance of journal articles, one must immediately consider the consumer group or type of reader to whom it is hypothesized that use of the criteria to identify high priority literature will be a useful service. Clearly, it is quite possible that there may be considerable variation in the value to be assigned to the clinical relevance of a given article when considered in the context of the potentially varying information needs of different types of practitioners; i.e., generalist vs. specialist; specialist (pediatrician) vs. specialist (internist); and subspecialist (internist-cardiologist) vs. subspecialist (internist-endocrinologist). It may follow then, that some limitation of.target populations may be indicated, particularly during developmental phases.

Miller and Felder suggest the family physicians as the group(s) of practitioners with perhaps the greatest need in the area of literature identification help:

> "This defect is most apparent when we look at the largest homogeneous group of medical readers--the family physicians, or general practitioners and general internists in private practice. This group provides the bulk of first-line patient care in this country.
>
> The family physician is responsible for a wide range of clinical decision-making in medicine. At the same time, he has to make these decisions about more patients in less time than most specialists, with the possible exception of the pediatrician. The family doctor also receives more medical literature--solicited and unsolicited--than most of his specialist colleagues. Yet most of what he receives is not geared to his specific needs in day-to-day practice. Articles are generally disease oriented, not patient oriented, and provide fragmented information not easily integrated into the care of the whole patient."

If one also adds the broad specialty classifications of pediatricians, obstetricians/gynecologists and general surgeons to the family (general) practitioners and internists suggested by Miller and Felder one may define a larger and somewhat more significant patient care practitioner cluster: the Primary Physician, or that group of physicians who collectively have initial contact with most patients and to whom patients commonly turn (frequently without regard to the specialty classification) with a problem that requires initial evaluation, diagnosis, treatment and/or referral. The reasons for a patient with a sore throat, vague pain, etc., turning to the old family pediatrician, obstetrician, or general surgeon, and in effect using those specialists as family physicians are too numerous to consider here. The important thing is that the behavior does, in fact, occur and sometimes frequently. The implications of the phenomenon are that such specialists must be able to function in the capacity of primary physician as well as specialist and, consequently, show certain common information needs in addition to the unique ones they have concomitant with their differing roles as specialists. It follows, then, that all such potential "primary physicians" must keep abreast of current clinical information in many areas other than their specialties. Here lies the crux of the problem. How does that busy practitioner even keep in touch with all of the potential sources of relevant information, no less be able to screen, select, read and evaluate that material?

Clearly, and as advocated by the New England Journal of Medicine, "someone has to stick out his neck" and make recommendations. But such recommendations would be more acceptable to all parties concerned (producer, consumer and regulators of the literature) if based on a set of criteria, rationally derived and empirically tested. With this need as a focus, activities under the current contract were directed toward developing and testing a system of criteria to guide the evaluation of the clinical relevance of an individual journal article relative to the separate clinical information needs of each of five types of specialists (General Practitioners (G), Internists (I), Pediatricians (P), Obstetrician/Gynecologists (O), and General Surgeons (S)), as well as relative to their common clinical information needs as potential primary physicians (GIPOS).

Postgraduate Medical Institute (PMI) received Contract NIH 70-4042 ("Conduct a study for journal article selection relevant to clinical medicine") in February of 1970. This is the final report of activities conducted under the contract and findings obtained.

CONTRACT PERSONNEL

Postgraduate Medical Institute (PMI) received Contract NIH 70-4042 ("Conduct a study of criteria for journal article selection relevant to clinical medicine") in February of 1970 and initiated work on it immediately. All necessary contract personnel were recruited and included:

PMI Central Staff:

Norman S. Stearns, M.D., Project Director
Morton A. Madoff, M.D., Medical Coordinator
Robert A. Gold, Ed. M., Evaluation Coordinator
Support personnel including Research Assistants and Secretaries

Consultants:

Research Design, Statistical and Evaluation

Thomas M. Edwards, Ed. D., Assistant Professor of Education (Foundations of Education) Boston University School of Education
Ezra V. Saul, Ph. D., Professor of Psychology, Tufts University, and Consulting Director of Research, Postgraduate Medical Institute (deceased)
Bernard Shapiro, Ph. D., Associate Professor of Education (Statistics), Boston University School of Education

Clinical Relevance and Project Development

Peter Angleo, M.D., Waltham Hospital, Waltham, MA
Francis E. Barcus, Ph. D., Associate Professor of Communications Research, Boston University School of Public Communications, Boston, MA
Arnold Brill, M.D., Waltham Hospital, Waltham, MA
Richard Gleckman, M.D., Senior Physician, Lemuel Shattuck Hospital, Boston, MA
Donald Glotzer, M.D., Assoc. Professor of Surgery, Beth Israel Hospital, Boston, MA
George Grady, M.D., Director, Division of Biological Laboratories, Massachusetts Department of Public Health, Boston, MA
Franz Ingelfinger, M.D., Editor, New England Journal of Medicine, Boston, MA
Edward Kass, M.D., Editor, Journal of Infectious Diseases, Boston, MA
William McCabe, M.D., Director of Infectious Diseases Division, University Hospital, Boston, MA
James Patterson, M.D., Chief of Gastroenterology, New England Medical Center Hospitals, Boston MA
Clement Smith, M.D., Editor, Pediatrics, Boston, MA
Louis Weinstein, M.D., Professor of Medicine, New England Medical Center Hospitals, Boston, MA

METHOD

I. Study Design and Development

A. Criteria Establishment

An initial activity specified in the contract called upon PMI to:

> "establish preliminary criteria for the selection of articles relevant to clinical practice of those physicians who collectively see most patients, namely those in General (family) Practice, Internal Medicine, Pediatrics, General Surgery, and Obstetrics-Gynecology."

Pursuant to implementing this charge, PMI recruited a distinguished, small group of senior editors, editorial board members, academicians, and community hospital practitioners to assist with the pre-survey task of "establishing preliminary criteria" as specified above. As noted in the introduction to this report, the group was selected in such a way as to permit representation of the points of view of producers, consumers, and regulators of medical literature (writers, readers, and editors). A roster of the individuals included in this group appears on the contract personnel page under the heading: "Clinical Relevance and Project Development Consultants."

An outcome of the group's deliberations was an eight item criteria system designed to guide the evaluation of the clinical relevance of an individual journal article relative to the separate clinical information needs of each of the five types of physicians of concern to the study (General Practitioners (G), Internists (I), Pediatricians (P), Obstetricians-Gynecologists (O), and General Surgeons (S)), as well as relative to their common clinical information needs as potential primary physicians (GIPOS).

The key feature of the system is that it permits the evaluation of the clinical relevance of an article in a journal such as Pediatrics for (G), (I), (O), and (S) practitioners as well as for pediatricians, i.e., a given article can be differentially evaluated relative to the clinical information needs of the five separate types of specialists under consideration in the study as well as relative to the general needs of "primary physicians".

Details of the criteria system, the article evaluation instruments into which it was incorporated, and its uses are discussed in appropriate sections below. The eight potential criteria formulated for use and examination in the study are as follows:

1. Topical interest of article to each audience (i.e., how timely is the subject);
2. Comprehensibility of article to each audience (i.e., not dependent on specialized knowledge);
3. Frequency of applicability of article's information to the clinical practice of each audience (i.e., how often will the information be used);
4. Significance of article's information to the clinical practice of each audience (i.e., potential impact on care of individual patients);
5. Adequacy of article's background explanation for each audience (i.e., how well is the topic area explained);
6. Originality of article's information (i.e., how new is the knowledge);

7. Validity of article's information (i.e., are statements, claims and conclusions well supported);
8. Quality of writing (i.e., style, as distinct from comprehensibility).

B. Study Revision

During preliminary phases of Criteria Establishment, questions were raised by PMI staff members and consultants regarding the efficacy and desirability of the study's design as defined in the original scope of work. The problem, as independently identified by several of the Consultants and PMI staff members, centered on the possibility that even if the study were implemented exactly as prescribed in the original scope of work, it could still yield data of only limited utility. The number of articles potentially to be reviewed (approximately 7200 in 20 journals) was so large that it was possible and even likely that there would be little or no overlap among the lists generated by the independently operating judges. In essence, potentially too many articles were to be reviewed by too few reviewers under conditions that did not assure that data produced would be statistically meaningful. PMI consultants and staff members agreed that an attempt to "tighten-up" the study was indicated in order to maximize the probability that it would achieve its goals.

Details of the study design problem were reviewed with the then Project Officer. He authorized PMI to proceed with an appropriate reformulation of the study's design concurrently with development of materials needed to obtain Bureau of the Budget (B-O-B) clearance for the questionnaire forms to be used in the study.

PMI immediately began to work on the reformulation of the study design as well as the B-O-B submission materials. A report of progress containing a preliminary revision was submitted to the then Project Officer on May 6, 1970, together with 25 pages of material pertinent to obtaining B-O-B clearances. The report indicated that several additional refinements were likely before the study design was finalized.

All necessary changes and additional materials were completed in the next month. A final 94 page compendium of B-O-B submission materials was transmitted to the Project Officer on June 26, 1970. By that time arrangements had also been made to meet with the Project Officer early in July to review the final revisions in the study design.

On July 1, 1970, the Medical Coordinator and Evaluation Coordinator presented an outline of the revised study design in final form to the Project Officer at his office in Bethesda, Maryland. A summary of the Revised Study Design is outlined below.

Revised Study Design

In summary form, the revised study design called for:

A. 10 journals; 2 from each of the five specialty fields in the study.

B. Three groups of article-evaluators:

10	editors, one from each of the 10 journals
100	academician practitioners, 20 from each of the specialty fields in the study
100	community hospital practitioners, 20 from each of the specialty fields in the study

C. The clinical relevance of all articles in a single issue (e.g., November, 1970) of each journal would be evaluated, in turn, by the editor, and 5* academician practitioners, each working independently. Each of these evaluators would use the PMI criteria system as the basis of their evaluations.

D. Parallel to C, and at the same time, groups of 5** other academician practitioners would evaluate the clinical relevance of the same articles without the use of the PMI criteria system. (That is, they would be asked to make the same final judgment of each article for the various target audiences in the study (a recommendation for priority ("must") reading), but they would not have the PMI criteria system to guide their judgments. Instead, they would be asked to specify the criteria they developed and used on their own.)

E. Following completion of the editor and academician survey phases of the study, participant response, including both quality and quantity of data produced, would be assessed. If experiences with the first two survey phases indicated, a third survey phase (utilizing non-academic, community hospital practitioners) would be conducted replicating the pattern followed, and tasks performed, during the academician survey phase. (That is, subgroups of 5 community hospital practitioners, half with and half without the PMI criteria, would evaluate the same material evaluated by the academicians and editors.)

F. The data produced in all three survey phases would then be analyzed to examine several questions:

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[*] The large groups of 100 academicians and 100 community hospital practitioners would consist of groups of 20 drawn from each of the five specialties of interest in the study. Of each group of 20 specialists, 10 would be randomly assigned to evaluate one of two journals from the specialty field. The remaining ten would be assigned to the second journal. The groups of 10 specialists assigned to evaluate each journal would be further divided randomly into sub-groups of 5 each. Half of the resulting pairs of 5 member sub-groups would use the PMI criteria system to evaluate the articles in the journals as specified in C. The other half of the 5 member sub-groups would evaluate the same articles without using the criteria, as specified in D.

[**] Size of sub-groups was determined by considerations of the requirements of statistical procedures to be used during data analysis.

1. Do editors, academicians, and community hospital practitioners have the same or differing perspectives on "clinical relevance", i.e., do they select the same material or different material when picking articles that they judge to be clinically relevant?

2. Does the PMI criteria system facilitate making consistent judgments of clinical relevance, i.e., is there greater inter-group reliability among users of the system than among those who had to rely on their own criteria?

3. Does the system as a whole, or parts thereof, have valid predictability in terms of an evaluator's overall judgment of an article's clinical relevance?

4. Does the criteria system facilitate making differential judgments of a given article's clinical relevance to more than one specialty, particularly with respect to identifying potentially valuable articles for one specialty that may be published in another specialty's journal(s)?

G. In addition, the articles identified as most clinically relevant would be used to "explore educational and patient care use to which a core collection of current journal articles relevant to practice could be put and to provide examples of such uses ...." as specified in the contract scope of work; e.g., as a source of content material for questions to be used in knowledge assessment examinations by practitioners.

C. Instruments

As indicated earlier under Revised Study Design, a limited number of pre-selected articles were to be evaluated by 5 subgroups of judges as follows:

1. Editors using criteria
2. Academicians using criteria
3. Academicians not using criteria
4. Community Hospital Practitioners using criteria
5. Community Hospital Practitioners not using criteria

Two distinct instruments, one specifying the PMI criteria and the other omitting them, were developed for use as article evaluation forms by these groups of judges. (See Appendix A.)

> ARTICLE EVALUATION FORM (CRLS 43) was designed for use by groups 1, 2 and 4 above. The form was designed to permit a judge to evaluate a single article, on six-point scales, for each of the six target populations of concern to the study (G, I, P, O, S, GIPOS) on each of the parameters of the eight separate PMI criteria. In addition, the form provides a space for the judge to make an "overall assessment" of the articles for each target population (a yes or no recommendation for priority ("must") readings).
>
> ARTICLE EVALUATION FORM (CRLS 63) was designed for use by groups 3 and 5 above. CRLS 63 requires the judge to make the same "overall assessment" of the article (as described in CRLS 43 above) but neither specifies the 8 PMI criteria nor requires the rating of the article on each of the criteria. Instead the article provides space and instructions asking the judge to specify what criteria he, himself, formulated and/or used as a basis for making his "overall assessment" rating; i.e., it asks him to list the criteria he utilized to evaluate the clinical relevance of the article.

A third instrument, described below and also included in Appendix a was developed for use as a debriefing instrument on which judges could record their reactions and suggestions after using the PMI criteria system.

> APPRAISAL OF ARTICLE EVALUATION SYSTEM (CRLS 23)was designed for use by sub groups 1,2 and 4 above. The form was designed to permit a judge to record systematically his reactions to the criteria system after having used it to evaluate the articles assigned him. In a series of "open-ended" and "yes-no plus explanation" questions the form queries the judge's opinion regarding additions, deletions or modifications of the system, etc.

In addition to the three primary survey instruments described above, a number of materials were developed for use as standardized mailings to the various subgroups in the study. Three classes of standardized mailing materials were developed and used to facilitate recruitment, orientation and task specification for the various subgroups of participants in the study. The three classes of materials included "Cover Letter", "Introduction to Participants" and "Non-Respondent Followup Letters".

> COVER LETTER elicits participation of prospective subjects in the study and/or acknowledges previously obtained verbal agreement to participate,and defines tasks to be performed and procedures to be followed. (personalized letter with hand signature)
>
> INTRODUCTION TO PARTICIPANTS explains the background and purposes of the study (two page mimeographed form).
>
> NONRESPONDENT FOLLOWUP LETTER reminds nonrespondent of the purpose of the study, his agreement to participate, the specific tasks to be performed, and the urgency of prompt completion of the task (personalized letter with hand signature).

. Appropriately modified versions of these three general classes of materials were developed and used during the survey phases of the study, i.e., separate versions of the "Cover Letter", "Introduction to Participants", and "Non-Respondent Followup Letters" were tailored to the various subgroups of participants (editors, academicians using criteria, academicians not using criteria, etc.). A complete set of the standardized mailing materials was submitted for review and approval, along with the study's survey instruments and procedures, by the Bureau of the Budget. Sample sets of the standardized mailing materials (designed for use with the two academician subgroups) are included in Appendix A of this report.

II. Study Implementation and Procedures

Implementation of the revised study design is outlined below. In the format utilized, the *design* of each step in the study is summarized and then is followed by a detailed statement of its *implementation*.

Step 1 - Design:

Selection of ten journals, 2 representing each of the five major fields of interest to the study, i.e., general practice (G), internal medicine (I), pediatrics (P), obstetrics-gynecology (O), and general surgery (S).

Step 1 - Implementation:

Step 1 was completed by July 1, 1970. Journals selected and the fields they represent are as follows:

general practice	*American Family Physician/GP* *New England Journal of Medicine*
internal medicine	*Annals of Internal Medicine* *American Journal of Medicine*
pediatrics	*Pediatrics* *Journal of Pediatrics*
obstetrics-gynecology	*Obstetrics and Gynecology* *American Journal of Ob. & Gyn.*
general surgery	*Annals of Surgery* *Surgery, Gynecology, & Obstetrics*

Journal selection and field assignment were made on the basis of their inclusion on the list of journals recommended for "A Core Medical Library"*, and on the basis of data from a prior PMI survey of the incidence of G,I,P,O, AND S physician specialists'regular reading of various medical journals among the doctors at a number of New England hospitals. Journals selected represented those most frequently read by the five types of specialists in the study. In the few instances where the same journal (e.g., NEJM) appeared in the top two of more than one specialty's list of most frequently read journals, the journal in question was assigned to only one specialty and was replaced in the other specialty by the next most frequently cited journal. JAMA was the only eligible journal not included. This was due to the fact that AMA editors had stated an unwillingness to cooperate with the study during earlier phases.

Step 2 - Design:

Recruitment, as participants in the study, of the editor of each of the journals selected for inclusion in the study.

Step 3 - Implementation:

Step 2 was initiated in July, 1970 and was successfully completed in early fall. Senior editors of nine of the journals agreed to participate fully in the study. The tenth senior editor at first agreed to participate himself and later asked that his associate editors be allowed to substitute for him. Several other senior editors asked that their associate editors be allowed to participate in addition to themselves. All requests were happily honored as they appeared to present no significant research problems. Inclusion of associate editors raised the total number of "editors" participating in the study to 18, as indicated in the Results Section.

Editor recruitment was accomplished through in-person visits to the editors by the Project Director, Medical Coordinator, and Evaluation Coordinator. Personal-visit recruitment proved a fortunate choice in the case of the editors, whose participation was vital to all other phases of the study, because it allowed the PMI recruiters to handle issues that arose such as the possible long range threat of the study or its outcomes to such things as editorial prerogative. In addition, the editors (most of whom are also quite concerned with issues of how to maximize chances of getting the right information to the right people) provided much valuable information regarding the problems of identifying or generating clinically relevant literature. The discussions also allowed a number of the editors to review the details of the study's design and their roles in it. In a number of cases the rigor of the study's design or its potential for providing comparisons of the "clinical relevance" perspective of editors, academicians and practitioners seemed to be of particular interest to the editors.

Editors were advised that the actual survey (article evaluation) phase of the study would begin as soon as PMI received Bureau of the Budget Clearance.

Step 3 - Design:

Selection and recruitment, as participants in the study, of 100 academically-oriented practitioners (20 from each of the 5 specialties G, I, P, O, S, in the study),

Step 3 - Implementation:

Selection and recruitment of the academicians began in July, concurrently with the recruitment of editors, and was successfully completed in December.

Potential candidates were picked at random from lists of Boston-area physicians prominent as both educators and practitioners, and as reviewers of material submitted for publication or as contributors themselves. Lists of 20 or more potential candidates were assembled for each of the five specialty groups in the study.

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Stearns NS, Ratcliff WW: A core medical library for practitioners in community hospitals. NEJM 280:474-480, 1969.

Between July and December the Medical Coordinator personally telephoned and recruited each of the potential candidates. Only a few potential candidates actually declined to participate when invited, but many were very hard to reach because of their busy schedules. Fortunately, little time was actually lost due to the extended recruitment period because most of it occurred while PMI was awaiting B-O-B clearance for the survey forms.

On October 20, 1970, the then Project Officer advised PMI that B-O-B clearance for the survey questionnaires (article evaluation forms) had been granted and that the actual survey phases of the study could commence.

All forms requiring the B-O-B clearance number, etc. were immediately sent to the printer. Orders were placed for 20 copies each of the current issue (first in November) of all journals in the study. All other necessary steps were taken to permit mailing of complete work phase survey packets to editor and academician participants as soon as materials became available.

Step 4 - Design:

Editors apply and evaluate the Clinically Relevant Literature Criteria System under controlled conditions.

Step 4 - Implementation:

Survey packets containing all necessary materials and instructions were mailed to all participating editors by November 25, 1970. Packets contained individually typed cover letters containing complete instructions, a short background paper (INTRODUCTION TO PARTICIPANTS) on the study, enough ARTICLE EVALUATION FORMS (CRLS 43) to evaluate each article in the designated issue of the Journal, an APPRAISAL OF ARTICLE EVALUATION SYSTEM FORM (CRLS 23), and postage paid return mailers. Samples of all these documents are included in Appendix A.

Completed materials were returned to PMI by all editor participants by the end of the first week of January, 1971. As indicated earlier, several associate editors also submitted materials. All data returned was of excellent quality. All data was visually inspected and then stored for later data analysis.

Thank-you letters and honoraria were sent to all participants.

Step 5 - Design:

Academician-practitioners apply and evaluate the Clinically Relevant Literature Criteria System under controlled conditions.

Step 5 - Implementation:

Implementation of the academicians survey phase began concurrently with that of the editors. The 100 academicians were mailed packets similar to those sent to editors, but with the addition of an actual copy of the journal issue to be evaluated. Delays in receiving shipments of the necessary journals at PMI caused delays in the mailing of survey packets to some participants. Most packets were mailed in December and the remainder went out in early January, 1971.

Groups of ten academicians evaluated the 10 journals, one group per journal. Half of each group of ten used the PMI Criteria System (see form CRLS 43 in Appendix) to give articles ratings on each criterion as well as overall (a yes or no recommendation for priority "must" reading). The other half were asked to make the same overall rating but to supply their own criteria (see form CRLS 63 in Appendix A.

A return flow of completed materials started arriving at PMI in December and continued through the first quarter of 1971. During that time two separate non-respondent follow-ups (letter) were initiated by PMI at appropriate times according to the plan outlined in B-O-B submission materials. Ultimately, completed materials were returned by over 75% of the academicians who originally agreed to participate in the study. As with the editors the data was, for the most part, of excellent quality. The 75% return was above the minimal level needed for effective data analysis.

Thank-you letters and honoraria were sent to all participants.

As indicated earlier in the Study Design Summary, the quality and quantity of data produced during the first two survey phases of the study (editors and academicians) were to receive a preliminary review and assessment before proceeding with the third survey phase (community hospital practitioners). The review had to be delayed until late spring 1971 because of delays in getting completed materials returned by some academician participants. When the outcomes of the first two phases were reviewed the data finally produced appeared to be quite satisfactory in both quality and quantity, i.e., the results produced were quite good though slower in coming than expected.

Steps were then undertaken to initiate the third and final survey phase.

Step 6 - Design:

Selection and recruitment, as participants in the study, of 100 community hospital-oriented practitioners (20 from each of the 5 specialties (G,I,P,O,S) in the study).

Step 6 - Implementation:

Selection and recruitment of the community hospital practitioners began in May, 1971 and was successfully completed in July.

Potential candidates were picked at random from the listings of board certified Massachusetts I,P,O and S specialists. Eligible candidates were limited to those whose listings indicated community hospitals as current primary affiliations. Individuals excluded were those with primary medical school, teaching hospital affiliations, or academic rank above clinical associate. The current edition of the Directory of Medical Specialists did not contain listings of the American Academy of Family Physicians (G specialist). A substitute list of appropriate candidates was obtained from the Massachusetts Chapter of the American Academy of General Practice.

Two page personal recruitment letters, were sent to over 250 potential candidates. Almost 150 responded affirmatively. Affirmative responders were well distributed among the five specialty groups. Written confirmation that their practices were primarily community hospital/office-oriented (as opposed to medical school/university hospital or other-oriented) was obtained from each candidate recruited.

Step 7 - Design:

Community hospital-practitioners apply and evaluate the Clinically Relevant Literature Criteria System under controlled conditions.

Step 7 - Implementation:

Implementation of the community hospital-practitioner survey phase began in the first week of August, 1971 with the mailing of packets of article evaluation materials to the 100 selected participants. Materials sent, participant sub-groupings, and tasks assigned were identical to those of the academicians phase (step 5) described earlier.

A flow of completed materials started arriving at PMI in late August and continued through the fall and into the winter. As in the academician phase, two separate non-respondent follow-ups (letters) were initiated by PMI at appropriate times. Completed materials were received from approximately 75% of the community hospital practitioners.

As in the early phases, respondents reported that the extended time needed by many to complete the job was due to conflicting vacation or travel schedules and the size of the task. (Many participants, both academicians and practitioners, reported spending more time at the task than the three hours originally estimated.) In view of the size of the task and the relatively small* honorarium provided, it was extremely encouraging to note the high completion rates and supportive comments of many of the participants.

All data obtained during implementation of the study, as described above, were tabulated, processed, and reported in the results section.

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* The increased number of participants receiving honoraria under the revised study design caused a decrease to $35.00 in the size of the honoraria provided to academicians and community hospital practitioners.

Participating Physicians

One issue from each of ten major medical journals was selected for the study. All of the regular articles from each issue were rated. The ten journals included two from each of five medical specialties: general practitioners, internists, pediatricians, obstetricians-gynecologists, and surgeons.

A total of 18 editors and associate editors agreed to participate in the study by rating journal articles. The number of participating editors from each medical specialty are presented in Table 1.

A total of 200 medical specialists were invited to participate in the study by rating journal articles in their specialty fields. The 200 physicians included 40 from each of the five specialty fields (see Table 2). Of the 200 invited physicians, 100 were academicians who were faculty members at medical schools; the other 100 were practitioners. Half of the academicians and half of the practitioners were asked to rate the journal articles using the PMI criteria system. The remaining half of each group were asked to use their own criteria to rate the articles.

Of the 200 invited physicians, 154 actually participated in the study. The participants were about evenly divided across the category and specialty groups in the study (see Table 3).

Articles from each of two issues were rated by the editors and physicians in each field. A total of 176 journal articles were rated by the editors (see Table 4). A total of 192

TABLE 1

Number of Participating Journal Editors in Each Specialty Field

Specialty Field	Number of Editors
General Practitioners	6[1]
Internists	3[1]
Pediatricians	2
Obstetricians-Gynecologists	2
Surgeons	5[1]
Total	18

[1] Includes associate editors.

TABLE 2

Number of Physicians in Each Group Invited to Participate in the Study

Type of Physician	Group Using Criteria		Group Not Using Criteria		Total
	Academicians	Practitioners	Academicians	Practitioners	
General Practitioners	10	10	10	10	40
Internists	10	10	10	10	40
Pediatricians	10	10	10	10	40
Obstetricians-Gynecologists	10	10	10	10	40
Surgeons	10	10	10	10	40
Total	50	50	50	50	200

TABLE 3

Number of Physicians in Each Group Participating in the Study

Type of Physician	Used Criteria		Did Not Use Criteria		Total
	Academicians	Practitioners	Academicians	Practitioners	
General Practitioners	9	7	7	8	31
Internists	7	8	7	9	31
Pediatricians	7	9	6	7	29
Obstetricians-Gynecologists	9	9	7	7	32
Surgeons	9	6	7	9	31
Total	41	39	34	40	154

TABLE 4

Number of Articles Rated by Editors in Each Specialty Field

Specialty Field	Number of Articles
General Practitioners	12
Internists	32
Pediatricians	51
Obstetricians-Gynecologists	44
Surgeons	37
Total	176

journal articles were rated by the physicians (see Table 5). The number of articles rated by the editors and physicians varied across the five specialty fields depending on the number of articles contained in the two journal issues representing each specialty field.

TABLE 5

Number of Articles Rated by Physicians in Each Specialty Field

Specialty Field	Number of Articles
General Practitioners	17
Internists	38
Pediatricians	51
Obstetricians-Gynecologists	44
Surgeons	42
Total	192

Procedure

All of the editors and half of the other physicians (academicians and practitioners) rated the journal articles in their specialty field by using the clinical relevance criteria (ARTICLE EVALUATION FORM (CRLS 43), Appendix A). The remaining physicians rated the journal articles in their specialty field without using the clinical relevance criteria. They used Form (ARTICLE EVALUATION FORM (CRLS 63), Appendix A) whereby each rater had to decide upon his own criteria. Thus two different types of criteria were used to assess articles.

Two journals from each specialty field were rated by the physicians in that specialty field. Half of all the physicians rated the articles from one of the journals and half rated the articles from the other journal.

Regardless of which criteria a physician used, every physician made an overall assessment of articles using the same form. Every physician in the study rated a given journal for "must reading" by answering the following question:

> "Overall Assessment: The clinical value of this article warrants its recommendation for priority ("must") reading by the following target audience(s):"
>
> "Circle letters corresponding to recommended audience(s)"   G   I   P   O   S   GIPOS NONE

(G=General Practitioners; I=Internists; P=Pediatricians; O=Obstetrician-Gynecologists; and S=Surgeons.)
Each category of specialist was scored a 1 if circled by a rater and was scored a 0 if not selected by a rater.

The score for each article was the proportion of physicians who rated it as "must reading". The proportion scores for all the articles in a specialty field were averaged. The popularity of all the articles in, say, pediatrics was thus the average proportion of pediatricians who rated each article as "must reading".

Three such scores were calculated to represent the popularity of all the articles in each specialty field (a) Specialty Field Score - the average proportion of physicians in the articles' specialty field who rated each article as must reading for practitioners in that specialty field; (b) The Outside Fields Score - the average proportion of times the physicians in the articles' specialty field rated each article as must reading for practitioners in each of the four other specialty fields; and (c) the Six Categories Score - the average proportion of times the physicians in the articles' specialty field rated each article as must reading for each of the five kinds of specialists and for primary physicians generally (GIPOS).

The present study investigates the effects of using the clinical relevance criteria system for rating the importance of medical journal articles. Raters either were asked to use the clinical relevance criteria or were asked to develop and use their own criteria for evaluating articles. The raters included editors, academicians, and practitioners, and represented five medical specialty fields: general practitioners, internists, pediatricians, obstetricians - gynecologists, and surgeons.

The study compares criteria and non-criteria raters. Within each rating system, the study also compares: (a) editors, academicians and physicians; (b) raters in the five medical specialty fields; and (c) three criterion measures of an article's relevance. Correlational analyses were done to show degree of similarity among the above groups. Analyses of variance were done comparing the tendency of raters in these groups to designate an article as "must reading" for other medical specialists.

RESULTS

Comparison of Groups

Comparison of Physicians' Ratings of Articles in their Specialty Field

Each article in a specialty field was rated for "must reading" by physicians in that specialty field. The score used was the average proportion of physicians in the article's specialty field who rated each article as must reading for practitioners in their field, e.g., the average proportion of pediatricians rating each article in a pediatrics journal as being "must reading" for other pediatricians.

A three-way analysis of variance was used to compare the different groups of physicians. The groups compared were those who used the clinical relevance criteria vs. those who did not; academicians vs. practitioners; and physicians in each specialty field vs. those in each other specialty field. The means are presented in Table 7 (text) and the statistical analyses in Table 1 (Appendix B).

A significantly lower proportion of physicians (.444) who used the criteria rated the average article as "must reading" than did the physicians (.533) who did not use the criteria ($F=6.2$, $p < .05$). Significantly more practitioners (.543) than academicians (.434) rated the articles as "must reading" in their specialty field ($F=9.5$, $p < .01$).

TABLE 6

Proportion of Editors Who Rated Each Journal Article in Their Specialty Field as "Must Reading" for Practitioners in and out of the Editor's Specialty Field

Type of Editor	Specialty Field	Each of Four Outside Fields	All Six Field Categories[1]
General Practitioners	.667	.276	.337
Internists	.666	.169	.273
Pediatricians	.412	.031	.106
Obstetricians-Gynecologists	.814	.109	.251
Surgeons	.574	.135	.205
Mean	.609	.114	.209

[1] Includes each of the five specialty fields plus a category of "must reading" for practitioners across all five specialty fields.

TABLE 7

Proportion of Each Group of Physicians Who Rated Each Journal Article in Their Specialty Field as "Must Reading" for Practitioners in Their Specialty Field

Type of Rater	Used Clinical Relevance Criteria			Did Not Use Clinical Relevance Criteria			Mean of Criteria Users & Non-Users		Mean
	Academicians	Practitioners	Mean	Academicians	Practitioners	Mean	Academicians	Practitioners	
General Practitioners	.372	.503	.437	.470	.593	.532	.421	.548	.484
Internists	.336	.629	.482	.373	.704	.538	.354	.663	.510
Pediatricians	.502	.618	.560	.442	.669	.555	.472	.643	.557
Obstetricians-Gynecologists	.275	.341	.308	.575	.447	.511	.425	.394	.409
Surgeons	.520	.311	.416	.433	.613	.523	.476	.462	.469
Mean	.410	.479	.444	.459	.606	.533	.434	.543	.488

Physicians, regardless of the use of criteria, in each of five specialties were contrasted in their tendency to rate articles in each of their specialty fields as "must reading". There were no significant differences among these five groups. However, there was a significant interaction between the variable of specialty and the variable of academicians vs. practitioners ($F=2.9$, $p < .05$). Among general practitioners, internists and pediatricians, practitioners rated more articles as "must reading" than did academicians; however, among gynecologists and surgeons, there was little difference between academicicans and practitioners. None of the other interactions were significant.

Comparison of Physicians' Ratings of Articles in Each of the Four Fields Outside their Specialty Field

Each article in a specialty field was rated by physicians in that specialty field for "must reading" for physicians in each of the other specialty fields. The average rating of articles in a field was calculated. The score used was the average proportion of physicians who rated each article in their specialty field as "must reading" for practitioners in each of the four fields outside the raters' specialty field, e.g. the proportion of pediatricians rating each article in pediatrics as "must reading" for each of general practitioners, internists, obstetricians-gynecologists, and surgeons.

A three-way analysis of variance was used to compare the different groups of physicians. The groups compared were those who used the clinical relevance criteria vs. those who did not: academicians vs. practitioners; and physicians in each specialty field vs. those in each other specialty field. The means are presented in Table 8 (text), and the statistical analyses in Table 2 (Appendix B).

When specialists rated articles as must reading for physicians outside that specialty, raters using the clinical relevance criteria were less apt to rate an article as must reading than non-users of the PMI criteria (a proportion of .114 as compared to .139, $\underline{F} = 7.9$, $\underline{p} < .01$). In addition, fewer academicians than practitioners rated an article as must reading for outside specialists (.113 as compared to .140, $\underline{F} = 7.2$, $\underline{p} < .01$).

When physicians in each specialty field were compared to those in each other specialty field, the groups differed significantly in the tendency of specialists to rate an article as must reading for outside specialists. The following groups differed considerably ($\underline{F} = 52.4$, $\underline{p} < .01$): general practitioners (with a proportion of .312 rating an article as must reading for outsiders); internists (.138); pediatricians (.118), obstetricians-gynecologists (.086), and surgeons (.093). This indicates that the surgeons' and obstetricions' articles are specialized and are generally viewed as unsuitable to other specialists, while the general practitioners' articles are viewed as more relevant to other specialists.

TABLE 8

Proportion of Each Group of Physicians Who Rated Each Journal Article in Their Specialty Field as "Must Reading" for Practitioners in Each of Four Outside Fields

Type of Rater	Used Clinical Relevance Criteria			Did Not Use Clinical Relevance Criteria			Mean of Users & Non-Users		Mean
	Academicians	Practitioners	Mean	Academicians	Practitioners	Mean	Academicians	Practitioners	
General Practitioners	.238	.321	.280	.345	.344	.345	.292	.333	.312
Internists	.107	.110	.108	.088	.250	.169	.097	.180	.138
Pediatricians	.119	.138	.129	.104	.112	.108	.112	.125	.118
Obstetricians-Gynecologists	.052	.046	.049	.130	.116	.123	.091	.081	.086
Surgeons	.100	.104	.102	.059	.111	.085	.079	.108	.094
Mean	.108	.120	.114	.118	.161	.139	.113	.140	.127

There was a significant interaction between use vs. not use of clinical relevance criteria, and the five specialty groups (F=3.3, $p < .05$). Pediatricians and surgeons who used the criteria rated more articles as "must reading" than did those who did not use the criteria. General practitioners, internists, and obstetricians-gynecologists who used the criteria rated fewer articles as "must reading" than did those who did not use the criteria. These "must reading" ratings, of course, applied to physicians in each of the outside fields. There also was a triple interaction (F=3.1, $p < .05$). The other interactions were not significant.

Comparison of Physicians' Ratings of Articles across All Six Categories

Each article in a specialty field was rated for "must reading" by specialists in that field. The average rating of articles in a field was calculated. The score used was the average proportion of physicians who rated each article in their field as "must reading" for physicians in six categories-physicians in each of the five fields (G,I,P,O,S) and potential primary physicians (GIPOS), e.g. the average proportion of pediatricians rating each article in a pediatrics journal as being "must reading" for physicians in each of the five specialties, and for primary physicians generally.

A three-way analysis of variance was used to compare the different groups of physicians. The groups compared were those who used the clinical relevance criteria vs. those who did not: academicians vs. practitioners; and physicians in each specialty field vs. those in each other specialty field. The means are presented in Table 8 (text) and the statistical analyses in Table 3 (Appendix B).

A significantly higher average proportion of physicians (.238) who did not use the criteria rated each article as "must reading" than did the physicians (.177) who used the criteria, ($F=5.5$, $p < .05$). Significantly more practitioners (.237) than academicians (.178) rated each article as "must reading" across all six categories ($F=3.9$, $p < .05$). There was a significant difference ($F=5.3$, $p < .01$) among physicians in the five specialty fields in their rating of articles in their field as must reading across all six categories. The proportions for each group are: general practitioners (.352), internists (.219), pediatricians (.201), obstetricians-gynecologists (.191), and surgeons (.162). There were no significant interactions.

Comparison of Editors and Physicians

A series of two-way analyses of variance were done to compare editors with physicians on their tendency to rate articles as "must reading." The main purpose of these analyses is to compare editors with academicians and practitioners, as well as to compare the editors with physicians who used and who did not use the clinical relevance criteria. Thus only the direct comparisons of the editors and physician groups will be presented in text. For other detailed analyses see the tables in Appendix B referred to below. All the editors used the clinical relevance criteria, while half of the physicians used it, and half did not.

The first variable compared was the average proportion of physicians who rated each article in their specialty field as being "must reading" for physicians in that specialty field. (See Tables 6 and 7 in the text for means.) The editors were compared to those physicians who used the criteria. There was a significant difference ($F=4.4$, $p < .05$) among the average proportions of editors (.610), academicians (.427), and practitioners (.496), who rated each article as "must reading" in their specialty field. (See Table 4, Appendix B).

The editors were also compared to those physicians who did not use the clinical relevance criteria. There was a significant difference ($F=7.0$, $p < .01$) among the proportions of editors (.610), academicians (.465), and practitioners (.608). (See Table 5, Appendix B.)

It appears from the above two analyses that editors value journal articles for specialty field readers more than do physicians generally. The editors, all of whom used the criteria, however, valued the articles about the same as did the practitioners who did not use the criteria. On the average, the physicians not using the criteria valued the articles more highly than did the criteria users, and hence more closely resembled the editors.

The second variable compared was the average proportion of physicians who rated each article in their specialty field as being "must reading" for physicians in each of the other four specialty fields. (See Tables 6 and 8 in the text for means.)

The editors were compared to those physicians who used the criteria. There was significant difference ($F=3.7$, $p < .05$) among the average proportions of editors (.114), academicians (.125), and practitioners (.160) who rated each article as "must reading" for physicians in each of the other specialty fields. Thus practitioners were the most likely to recommend articles for other specialists. (See Table 6, Appendix B.) The editors were also compared to those physicians who did not use the criteria. There was no significant difference ($F=0.0$, N.S.) among the proportion of editors (.115), academicians (.115), and practitioners (.117). (See Table 7, Appendix B.)

It appears from the above two analyses that editors value journal articles for readers outside the specialty field less than do those practitioners who used the criteria, and the same as do the other categories of physicians. On the average, the editors were least different from those not using the criteria in comparison to its users in terms of the articles' relevance to outside specialists.

The third variable compared was the average proportion of physicians who rated each article in their specialty field as being "must reading" for all six categories -- each of the five specialties plus the combined category of all five specialties. (See Tables 6 and 9 in the text for means.)

The editors were compared to those physicians who used the clinical relevance criteria. There was no significant difference (F=1.7, N.S.) among the proportions of editors (.209), academicians (.189), and practitioners (.292) who rated the articles as "must reading" across all six categories. (See Table 8, Appendix B.)

The editors were also compared to those physicians who did not use the criteria. There was no significant difference (F=1.8, N.S.) among the proportions of editors (.209), academicians (.171) and practitioners (.191). (See Table 9, Appendix B.) It appears from the above two analyses that there is little difference among editors and any of the physician groups on the six categories rating.

TABLE 9

Proportion of Each Group of Physicians Who Rated Each Journal Article in their Specialty Field as "Must Reading" for Practitioners in All Six Field Categories[1]

Type of Rater	Used Clinical Relevance Criteria			Did Not Use Clinical Relevance Criteria			Mean of Users & Non-Users		Mean
	Academicians	Practitioners	Mean	Academicians	Practitioners	Mean	Academicians	Practitioners	
General Practitioners	.260	.351	.306	.412	.386	.399	.336	.368	.352
Internists	.185	.198	.191	.162	.330	.246	.174	.264	.219
Pediatricians	.182	.243	.212	.162	.219	.190	.172	.231	.201
Obstetricians-Gynecologists	.090	.094	.092	.207	.374	.291	.149	.234	.191
Surgeons	.171	.143	.157	.140	.196	.168	.155	.170	.162
Mean	.166	.188	.177	.189	.286	.238	.178	.237	.207

[1] Includes each of the five specialty fields plus a category of "must reading" for practitioners across all five specialty fields.

CORRELATIONAL ANALYSES OF "MUST READING" SCORES

The three scores used in the correlational analyses are (a) specialty field -- the proportion of physicians who rated an article in their specialty field as "must reading" for others in their specialty field; (b) outside fields -- the proportion of physicians who rated an article in their specialty field as "must reading" for physicians in each of four other specialties; and (c) six categories -- the proportion of physicians who rated an article in their specialty field as "must reading" in each of the above five fields plus an overall category of applying to physicians in all five specialty fields.

Using the above three measures, academicians who used the PMI[1] criteria were compared with academicians who did not use it (see Table 10). The correlations were .34 for the specialty field score, .51 for the outside field score, and .39 for the six categories score. Thus for academicians there was a moderate amount of correspondence between users and non-users of the PMI criteria.

For practitioners, as for academicians, the three scores of those who used the PMI criteria were compared with the three scores of those who did not (see Table 10). The correlations were .28 for the specialty field score, .25 for the outside fields score, and .03 for the six categories score. The latter correlation corresponds to no relation at all. For practitioners, there was only a very limited correspondence between users and non-users of the PMI criteria.

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1. Note. The term PMI (Postgraduate Medical Institute) criteria is another name for the clinical relevance criteria referred to throughout this paper.

Table 10

Correlations Between Physicians Using the PMI Criteria and Those not Using the PMI Criteria on the "Must Reading" Scores of Journal Articles

	Number of Articles	Specialty field score	Outside fields score	Six categories score
Academicians	192	.34**	.51**	.39**
Practitioners	192	.28**	.25**	.03

** p .01

The correlation of .51 between PM1 criteria and non-PM1 criteria academicians on the outside field score was significantly higher than the .25 value for practitioners ($\bar{z}$ = 3.0, p .01). Likewise, the correlation value of .39 between PMI and non-PMI academicians on the six categories score was significantly higher than the .03 value for PM1 and non-PM1 practitioners. Thus there was significantly more agreement among academicians than among practitioners on the outside fields score and on the six categories score, but there was no difference in specialty field scores.

Correlations were done between groups using the PM1 criteria. On each of the three scores, correlations were done between editors and academicians, editors and practitioners, and academicians and practitioners (see Table 11). Correlations for the three pairs of physicians were low for the specialty field score and were moderate for the outside fields score and the six categories score.

Correlations also were done between groups not using the PM1 questionnaire. On each of the three scores, correlations were done between editors and academicians, editors and practitioners, and academicians and practitioners. The correlations in Table 12 indicate only a moderate agreement for the three pairs on each score.

To determine if there was more agreement among PM1 questionnaire users than among non users, each correlation value in Table 11 was separately compared to the corresponding correlation value in Table 12. Only two of the nine comparisons were statistically significant. Academicians and practitioners using the PM1 criteria showed significantly

Table 11

Correlations among Physicians Who Used the PMI Criteria on "Must Reading" Scores of Journal Articles

	Number of articles	Specialty field score	Outside fields score	Six categories score
Editors x academicians	175	.29**	.43**	.36**
Editors x practitioners	175	.07	.39**	.24**
Academicians x practitioners	192	.23**	.60**	.48**

** *p* .01

Table 12

Correlations Among Physicians Who Did Not Use the PMI Criteria on "Must Reading" Scores of Journal Articles

	Number of articles	Specialty field score	Outside fields score	Six Categories score
Editors x academicians	175	.24**	.44**	.37**
Editors x practitioners	175	.18*	.43**	.30**
Academicians x practitioners	192	.35**	.41**	.20**

* *p* .05

** *p* .01

higher agreement than did academicians and practitioners not using it -- on the outside fields score (a correlation of .60 *vs*. one of .41, $\bar{z} = 2.7$, p .01) and on the six categories score (a correlation of .48 *vs*. one of .20, $\bar{z} = 3.2$, p .01). Thus the PM1-criteria physicians were in significantly greater agreement than the non-PM1-criteria physicians in two out of nine comparisons, and not significantly different in the other seven comparisons.

Correlations were done to determine to what extent articles which rated high in their specialty field also rated high in other fields, and on the six categories. The three measures used for each article were the specialty field score, the outside fields score, and the six categories score. For each group of physicians, correlations were obtained for each of three pairs of scores: the specialty field score *vs*. the outside fields score; the specialty field score *vs*. the six categories score; and the outside fields score *vs*. the six categories score. These three pairs of scores were correlated for physicians using the PM1 criteria (see Table 13), and for physicians not using the PM1 system (see Table 14). Separate correlations were obtained for editors, academicians, and practitioners in each table.

Across all physicians in both tables there was a rather low but consistent correlation between specialty field score and the outside fields score. There was a moderately high correlation between the specialty field score and the six categories score. There was a high correlation between the outside fields score and the six categories score.

The above correlations indicate that articles selected as "must reading" in their specialty field had only a slightly greater chance

Table 13

Correlations Among "Must Reading" Scores of Journal Articles

Rated by Physicians Using the PMI Criteria

	Number of articles	Specialty field x four outside fields	Specialty field x the six categories	Four outside fields x the six categories
Editors	175	.32**	.61**	.87**
Academicians	192	.38**	.58**	.84**
Practitioners	192	.20**	.28**	.76**

** *p* .01

Table 14

Correlations Among "Must Reading" Scores of Journal Articles

Rated by Physicians Not Using the PMI Criteria

	Number of articles	Specialty field x four outisde fields	Specialty field x the six categories	Four outside fields x the six categories
Editors	175	.32**	.61**	.86**
Academicians	192	.39**	.52**	.79**
Practitioners	192	.34**	.06	.25**

** *p* .01

of being selected as "must reading" in other fields. The quality of an article rated high in a specialty field appeared less pertinent than its relevance to other fields when physicians rated it for "must reading" in other fields. The all six categories score appeared more closely related to the outside fields score than to the specialty fields score. Thus an article's breadth of relevance appeared to be more related to its all six categories rating than did its quality rating in its specialty field.

Also in Tables 13 and 14 the correlations among the scores were generally lower for practitioners than for editors and academicians. The correlations for practitioners using the PM1 criteria were generally much higher than for practitioners not using the PM1 criteria. Thus there was less consistency across the three sets of ratings for practitioners not using the PM1 criteria than for any of the five other groups of physicians. The editors and academicians were each reasonably consistent across the three sets of ratings regardless of whether they used the PM1 criteria.

Regression Analysis of PMI Criteria[a]

This section of the results involves an internal analysis of the PMI criteria. Unlike the above results comparing groups of raters on the basis of proportion scores, this section looks at ratings by individual physicians on each article. Each correleation or other value in this section represents a large group of individual raters.

Each physician rated each article on the eight PMI criteria and on the overall criterion of must reading. He did this for his own field, for each of four other fields and for primary physicians generally, (GIPOS).

The PMI criteria used are shown in Appendix A. It is important for the reader to turn to them now, in order to understand this section of results.

Each physician rated each article on each of the eight PMI criteria and for must reading. The ratings on each criterion were made for readers of each article in each of the five specialty fields and for primary physicians generally representing the five specialties considered as a group in their common role as primary physicians.

Three scores were obtained for each criterion: (a) the specialty field rating for readers in the rater's specialty field; (b) the five fields rating -- the sum of the ratings across the five specialty fields; and (c) the rating for

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a. Note. The term PMI (Postgraduate Medical Institute) criteria is another name for the clinical relevance criteria referred to throughout this paper.

primary physicians generally. (The rating for primary physicians is a general rating that the physician makes once.)

For each score, a stepwise regression was done using the eight PMI criteria (Appendix A) as potential predictors and the must reading score as the criterion. The stepwise regression formula was used to select the best three predictors (out of the eight PMI criteria) to predict the must reading score. The formula gives the value of the Stepwise R, which is the correlation value indicating how well the must reading score can be predicted from the three predictors.

The formula also gives the Beta weight indicating the predictive value of each of the three predictors. The Beta weight is the amount that each predictor score would be weighted to give the stepwise R. That is, if you weigh each of the three predictor scores by their respective Beta weight, the total of the weighted scores will maximally predict the must reading score. The larger a predictor's Beta weight, the more it contributes to predicting the "must reading" score. Inspection of a larger series of stepwise regression formulas indicates that the Stepwise R would not be appreciably increased by the use of more than three predictors. Each table presented will contain the three best predictors.

The analyses in this section pertain to the editors and to those academicians and practitioners who used the PMI

Table 15

Stepwise Correlations Using the PMI Criteria
to Predict the "Must Reading" Score; All Measures
Pertain to the Specialty Field Rating by Each Physician

Raters	Stepwise R	Best Predictor		Second Best Predictor		Third Best Predictor	
		Criterion	Beta	Criterion	Beta	Criterion	Beta
Editors	.657	4	.540	1	.179	8	-.114
Academicians	.621	4	.350	1	.274	2	.104
Practitioners	.588	4	.402	1	.186	5	.072
Editors and Academicians and Practitioners	.617	4	.401	1	.222	2	.072

criteria. The analyses were done to determine which PMI criteria could best predict the must reading scores.

The Stepwise R was used to predict the specialty field score -- the must reading score for each article in the rater's own specialty field. The predictors were the specialty field ratings on each of the eight PMI criteria. The purpose was to determine how well (Stepwise R value) the specialty field score could be predicted, to locate the three PMI criteria which were the best predictors, and to give the Beta weights for each of those predictors. Four Stepwise R's were obtained: one for Editors, one for Academicians, one for Practitioners, and one for all three categories of physicians combined.

The Stepwise R analyses for specialty field score are presented in Table 15. For each group of physicians and for the combined group, the best predictor is PMI criterion 4, the second best predictor is always PMI criterion 1. The third best predictor varies somewhat from group to group, for the combined group it is PMI criterion 2. For the combined group the Stepwise R is .616 indicating a moderately high prediction of the must reading score using PMI criteria 4, 1 and 2 as the predictors. For the combined physicians, the Beta weights for the predictors are: PMI criterion 4 (Beta = .401), PMI criterion 1 (Beta = .222), and PMI criterion 2 (Beta = .072). Thus, the must reading score in the specialty field can be moderately well predicted from criterion 4 and 1 with only a little added prediction gained from criterion 2. Adding other predictors would be of little value.

Table 16

Stepwise Correlations Using the PMI Criteria to Predict the "Must Reading" Score; All Measures Pertain to the Sum of the Ratings of the Five Specialty Fields

Raters	Stepwise R	Best Predictor		Second Best Predictor		Third Best Predictor	
		Criterion	Beta	Criterion	Beta	Criterion	Beta
Editors	.682	4	.561	2	.202	7	.149
Academicians	.621	4	.369	1	.206	2	.157
Practitioners	.648	4	.316	1	.272	8	.181
Editors and Academicians and Practitioners	.637	4	.377	1	.239	8	.150

The Stepwise R was used to predict the five specialty fields score -- the sum of the ratings for must reading for the five specialty fields. The predictors were the sum of the ratings for the five fields on each of the eight PMI criteria. Four Stepwise R's were obtained one for Editors, one for Academicians, one for Practitioners, and one for all three categories of physicians combined.

The Stepwise R analyses for the five specialty fields score are presented in Table 1 . For each group of physicians and for the combined group, the best predictor is PMI criterion 4. For three out of four groups including the combined group, the second best predictor is PMI criterion 1. For the combined group, the third best predictor is PMI criterion 8. For the combined group the Stepwise R is .637, indicating a moderately high prediction of the must reading score using PMI criteria 4, 1, and 8 as the predictors. For the combined group of physicians, the Beta weights for the predictors are: criterion 4 (Beta = .377), criterion 1 (Beta = .239), and criterion 8 (Beta = .150). Adding other predictors would be of little value.

The Stepwise R was used to predict the primary physicians rating of must reading for physicians across the five specialty fields generally. The predictors were the eight PMI criteria ratings on the same variable. The Stepwise R analyses for the primary physicians rating are presented in Table 17. PMI criterion 4 is generally the best predictor, and PMI criterion 1 is generally the second best predictor, and PMI criterion 8

Table 17

Stepwise Correlations Using the PMI Criteria

to Predict the "Must Reading" Score; All Measures

Pertain to the General Rating for Primary Physicians (GIPOS)

Raters	Stepwise R	Best Predictor		Second Best Predictor		Third Best Predictor	
		Criterion	Beta	Criterion	Beta	Criterion	Beta
Editors	.511	4	.288	1	.227	8	.128
Academicians	.565	4	.208	1	.258	7	.128
Practitioners	.490	1	.257	4	.185	8	.138
Editors and Academicians and Practitioners	.520	4	.257	1	.250	8	.116

is generally the third best predictor.

For the combined group of physicians, criteria 4, 1, and 8 are the best predictors in that order. For the combined group the Stepwise R is .520 indicating a moderate prediction of the must reading score using PMI criteria 4, 1, and 8 as the predictors. For the combined physicians, the Beta weights for the predictors are: criterion 4 (Beta = .257), criterion 1 (Beta = .250), and criterion 8 (Beta = .116). Adding other predictors would be of little value.

The Stepwise R was used to predict the primary physicians rating of must reading for physicians across the five specialty fields generally. The predictors were, in this analysis, a different set of scores. The predictors are based on the five specialty fields score -- the sum of each PMI criterion rating for the five specialty fields. In sum, the PMI criteria, each based on the sum of five specialty fields scores, are used to predict the primary physicians rating. The analyses are done for each of Editors, Academicians, Practitioners, and all three groups combined.

The Stepwise R analyses to predict the primary physicians rating from PMI criteria based on the sum of the five specialty field ratings are presented in Table 18. There is somewhat more variation in the predictors for each group, so only the predictors for the combined group of physicians will be described in the text. The best predictor is criterion 4

Table 18

Stepwise Correlations Using the PMI Criteria to Predict the "Must Reading" Score: PMI Criteria Are the Sum of the Ratings for all Five Specialty Fields, the "Must Reading" Score is the General Rating for Primary Physicians (GIPOS)

Raters	Stepwise R	Best Predictor		Second Best Predictor		Third Best Predictor	
		Criterion	Beta	Criterion	Beta	Criterion	Beta
Editors	.426	3	.218	8	.206	4	.193
Academicians	.513	4	.254	1	.217	5	.139
Practitioners	.433	1	.211	8	.190	3	.132
Editors and Academicians and Practitioners	.454	4	.215	1	.204	8	.141

(Beta = .215), the second best predictor is criterion 1 (Beta = .204), and the third best predictor is criterion 8 (Beta = .141). The Stepwise R is .454 indicating only a moderate prediction using criteria 4, 1 and 8.

To determine the best way to predict the general must reading rating for primary physicians, the combined groups' Stepwise R's from Tables 17 and 18 were compared. The must reading score for primary physicians is better predicted from PMI criteria based on the primary physician rating (Stepwise R = .520), than from PMI criteria based on the sum of the ratings across all five specialty fields (Stepwise R = .454). This difference is significant ($\bar{z} = 2.78$, $p < .01$). This finding means that the must reading ratings for primary physicians generally are more closely related to criterion ratings for primary physicians generally than to the summed criterion ratings made for each of the five types of specialists.

The Stepwise R indicates how well the must reading score can be predicted from ratings on the clinical relevance criteria. In order to determine which sets of scores had the highest relationship between criteria and must reading score, the four Stepwise Rs were compared in value.

For all groups combined, the Stepwise R values for the predictions of must reading scores are compared for each set of scores. The Stepwise R of .637 based on the specialty fields ratings was significantly higher than the Stepwise R of .520 based on the primary physicians ratings ($\bar{z} = 5.00$, $p < .01$), and was significantly higher than the Stepwise R of

.454 for the primary physicians score predicted from criteria based on the sum of the five specialty fields ratings (z = 7.78, $p < .01$). Likewise, the Stepwise R of .637 for the p predictions based on the sum of the ratings of the five specialty fields was significantly higher than the Stepwise R of .520 based on the primary physicians ratings ($\bar{z}$ = 4.17, $p < .01$), and was significantly higher than the Stepwise R of .454 for the primary physicians score for the predictions based on the sum of the five specialty fields ratings (z = 6.94, $p < .01$).

Within each of Tables 15 - 18, there did not appear to be major differences between the values of the Stepwise R's obtained for each of Editors, Academicians, Practitioners, and for the three groups combined.

Across the four tables, for the combined groups, the best predictor was always criterion 4, and the second best predictor was always criterion 1. The third best predictor was criterion 8 for Tables 16 - 18, and was criterion 2 for Table 15.

Based on these findings it would be quite reasonable to reduce the eight PMI criteria to three criteria (criteria 4, 1, and 8 in that order). Possibly criterion 2 could be used as the third best predictor for ratings within the specialty field, but the author does not really recommend this as criterion 2 adds little to the Stepwise R for the specialty field score.

The Stepwise Rs presented in this section have thus indicated the best three independent criterion predictors of the must reading scores. The Stepwise R formula tends to pick predictors which are independent (uncorrelated) with one another. In this study, these three predictors, were not the three having the highest individual correlation with the must reading score.

The mean ratings of the articles on each criterion are presented in Table 10, Appendix B. The independent correlation of each criterion with its respective must reading score is presented in Table 11, Appendix B. Some criteria (e.g., criterion 3) predicted the must reading score rather well, but did not show up among the best three predictors in multiple regression because they were redundant (highly correlated with a better predictor). For example, criterion 3 was highly correlated with criterion 4, so only criterion 4 was selected by the multiple regression equation to represent the area of "significance of article's information to practice" in predicting the must reading score.

Appraisal of the Clinical Relevance Criteria System

All physicians who evaluated articles using the clinical relevance criteria, then completed a form to evaluate those criteria. See Appraisal of Article Evaluation System (Form CRLS23, in Appendix A. Raters indicated their reactions to it by answering questions A through H, below.

"A. What, if any, additional criteria would you add to the present system?"

Suggested additions included categorizing of articles by audience, type of article, or use of article; specialized evaluation; additions to the overall evaluation; and evaluation of clarity of presentation.

Categorizing of articles by audience, type of articles, or use of information was suggested in 29 responses, including the following: (a) indicate audience by a general interest category (1 response), by specialty field (3 responses), by smaller categories such as thoracic surgeon and hematologist (5), or by role -- academicians, practitioners, researchers (11); (b) indicate type of article -- review, new knowledge, refinement of existing knowledge, or comprehensive (8); and (c) indicate use of information -- for diagnosis, treatment, or professional operations (1).

Specialized evaluation was suggested in 6 responses: (a) use a different grading system for philosophic or research papers, since both may be worthwhile without being immediately practical (2 responses); (b) indicate appropriateness of subject matter to journal in which it appears (3); and (c) use some criteria indicating value to subspecialties (1).

Additions to the evaluation were suggested in 14 responses: (a) add a zero rating but cut down on number of choices in the scale -- perhaps use "must," "should," and "not important" (5 responses); (b) add a rating such as "worth reading to be well informed, even though not practical" (7); and (c) add a rating of "important - limited use," since an article could be valuable and still concern a relatively rare disease (2).

Evaluation of clarity of presentation was suggested in 15 responses: (a) assess writing style, including summarizing, omission of unnecessary detail, comprehensibility and use of subtities (11 responses); (b) assess the use of tables and illustrations for appropriateness and quality (3); and (c) for controversial articles, note whether alternate views are expressed (1).

"B. Which, if any, of the criteria would you omit from the present system?"

Criteria recommended for omission are shown in Table 19.

Table 19

Criteria Recommended for Omission from the Clinical Relevance Criteria System

(Question B)

	Criterion to be omitted							
Raters	1	2	3	4	5	6	7	8
Editors	0	2	3	3	2	0	1	1
Academicians	3	7	5	4	5	2	4	12
Practitioners	0	2	5	5	5	2	0	2
All raters	3	11	13	12	12	4	5	15

Criteria 1, 6, and 7 apparently were considered either most important or least redundant with other criteria. Criterion 8 seemed to be valued least.

Some raters suggested combining the following criteria: 3 and 4 (suggested by 10 raters); 1 and 3 or 4 or both (suggested by 4 raters); 2 and 5 (4 raters); 2 and 8 (4 raters); 5 and 7 (3 raters); 1, 2, or 6 and 7; 5, 6, or 7 and 8.

Regarding writing style, some raters stated that elegance was irrelevant; others noted that clarity was important.

"C. Should one or more of the listed criteria be weighted more heavily than others; i.e., carry more importance? If yes, please elaborate (including your recommendations for relative weight or importance)."

Tables 20 and 21 show the pattern of affirmative and negative responses to Question C and the criteria recommended for relatively heavy weighting.

Most raters considered weighting of the criteria to be desirable. Suggested for the heaviest weights were criteria 3 and 4; for the least heavy were criteria 5 and 8.

Table 20

Affirmative and Negative Responses to the Question of Weighting Some Criteria in the Clinical Relevance System (Question C)

	Response		
Raters	Affirmative	Negative	No response
Editors	12	2	3
Academicians	26	9	4
Practitioners	21	8	5
All raters	59	19	12

Table 21

Suggested Relative Weights of Criteria, Showing Mean Rank for each Criterion

(Question C)

Raters	N	Criterion 1	2	3	4	5	6	7	8
Editors	8	3.25	6.38	3.44	3.62	6.00	3.44	4.25	5.62
Academicians	25	4.40	5.06	3.52	2.94	5.32	5.38	3.88	5.50
Practitioners	17	3.50	4.88	3.47	3.12	5.56	5.21	4.79	5.47
All raters	50	3.91	5.21	3.49	3.11	5.51	5.01	4.25	5.51

Note.-- A rank of 1 indicates the heaviest weighting.

"D. Do you think that this journal article evaluation system has intrinsic merit?"

Table 22 shows the pattern of affirmative and negative responses to Question D. More than five times as many raters answered affirmatively as answered negatively the questions regarding the intrinsic merit of the clinical relevance criteria system.

Favorable comments labeled the clinical relevance criteria systems unique, time-saving, and quite complete. A practitioner stated that, in general, practitioners read out of interest in a particular case they are treating, and that they are being deluged with non-essential material. Evaluators thought the criteria system could help in several ways. Editorial boards could combine the results with other information to (a) select articles for publication; (b) do comparative evaluations of their journals relative to others; and (c) make journals more tailored to specific audiences. Medical libraries could accumulate specialized bibliographies. Physicians could use overall assessment ratings to locate the readings most useful to them.

Some evaluators thought the PMI criteria system had intrinsic merit but was limited in that it (a) focused on usefulness of information in clinical practice rather than intrinsic worth of the article or other criteria; and (b) did not meet the needs of general practitioners for a broad range of information, perhaps in digest form. Others noted that the system's merit depended on the skill of the reviewers

Table 22

Affirmative and Negative Responses to the Question Regarding the Intrinsic Merit of the Clinical Relevance Criteria System (Question D)

	Response		
Raters	Affirmative	Negative	No response
Editors	8	3	3
Academicians	30	6	1
Practitioners	30	3	1
All raters	68	12	5

and felt that the system was acceptable if done on a group rather than an individual basis. Others stated that the criteria system was too subjective, too complex, or too difficult.

Among those evaluators who thought the clinical relevance criteria system did not have intrinsic merit, some stated that it was not as useful to the reader as (a) reading titles and abstracts, then choosing articles; (b) skimming the few most pertinent journals; or (c) having a guide stating whether an article was a must for everyone, a must for anyone, or neither. Others noted that for the rater, it was hard to know what physicians in other specialties would think of an article and it was hard to deal with a complicated evaluation system; in addition, one's knowledge of a subject might influence his evaluation. Others felt simply that the evaluation system would be no substantial improvement over editors' or abstractors' present means of evaluation, and would only increase the information lag which already is a problem in publishing.

"E. Do you feel that the differential evaluation of journal articles relative to specific target audiences is appropriate?"

Table 23 shows the patterns of affirmative and negative responses to Question E. More than four times as many raters favored as disfavored the differential evaluation of journal articles.

Table 23

Affirmative and Negative Responses to the Question of Differential Evaluation of Journal Articles (Question E)

	Response		
Raters	Affirmative	Negative	No response
Editors	11	3	3
Academicians	30	5	1
Practitioners	22	7	3
All raters	63	15	7

Raters felt that differential evaluation would be useful to editors, abstractors, and readers. Such evaluation would be particularly useful to the reader selecting from general journals or selecting relevant articles from journals outside his specialty, but less useful to anyone reading journals in his own specialty.

Raters suggested that differential evaluation could be done especially well in relation to one's own specialty but that it was hard to know the interests of physicians outside one's own specialty, especially since specialties do overlap. Some raters suggested categorizing by audience (e.g., researchers and practitioners). Others found the primary physicians category difficult to use and redundant with the outside fields categories.

"F. Would you prefer a different system of criteria?"

Table 24 shows the pattern of affirmative and negative responses to Question F. Most evaluators stated that they would not prefer some alternative system of criteria, even though they might change some features of the system.

Those who favored a different system suggested the following: use of words rather than numbers; addition of criteria (described in responses to Question A, above); combination of criteria already used (see responses to Question B);

Table 24

Affirmative and Negative Responses to the Question Regarding Preferences for a Different System of Criteria than the Clinical Relevance System

(Question F)

	Response		
Raters	Affirmative	Negative	No response
Editors	6	6	5
Academicians	9	24	5
Practitioners	5	21	7
All raters	20	51	17

addition of specialties to be covered; use of a less subjective method of evaluation; evaluation of specialty journals only and only in relation to their target population; and decision regarding a suitable audience, to be followed by evaluation of clarity only in relation to that audience.

"G. Would you prefer a totally different approach to article evaluation?"

Table 25 shows the pattern of affirmative and negative responses to Question G. Most evaluators stated that they would not prefer a totally different approach to article evaluation, but again, some suggested modifications (described above). Some who favored a different approach suggested a shorter and simpler one. Several respondents stated that they were unsure what the alternative approaches might be.

Table 25

Affirmative and Negative Responses to the Question Regarding Preference for a Totally Different Approach to Article Evaluation than the Clinical Relevance Criteria Approach

(Question G)

	Response		
Raters	Affirmative	Negative	No response
Editors	2	8	5
Academicians	4	29	6
Practitioners	6	19	8
All raters	12	56	19

Evaluation Criteria Originated by Raters Not Using the Clinical Relevance Criteria

Raters who were not asked to use the clinical relevance criteria were asked instead to use their own criteria and to list those criteria.

The independently-originated evaluation criteria could be grouped into five major categories: importance (listed by raters 1872 times), research design (listed 472 times), presentation (listed 423 times), topic (listed 363 times), and information (listed 280 times).

The overall category of importance to practice, with 1872 responses, included importance to practice (listed by raters 547 times), relevance to many cases or doctors (listed 487 times), general relevance -- important vs. trivial (367 times), value of article limited (238), relevance to important cases (123), relevance to only one type of physician (59), and relevance to recent patient (51).

Research design, listed by raters 472 times, included validity of study -- excellence of data (listed 188 times), extent of data -- completeness of study (140), conclusions drawn (88), scientific design (26), size of study population (18), and analysis -- or study methods used (12).

Presentation, with 423 responses, included clearity (134 listings), length or conciseness (88), good or poor writing (86), writing style or organization (76), and illustrations (39).

The category of topic, with 363 responses, included originality of information (listed 212 times), quality or validity of topic (159 times), interest (127 times), type of subjects (37), and technical advance (18).

Information, listed by raters 280 times, included provision of good background information -- educational value (164 listings), bibliography (66), and adequacy of background information for each audience (50).

In comparison to the clinical relevance criteria system, the set of criteria originating with non-system raters was strikingly different in one respect: there was no differential evaluation by type of audience except in regard to adequacy of background information. Although some journals and some articles have only one audience of any size, many others can profitably be evaluated for practitioners in more than one specialty; such differentiation was not made by the non-system raters, with the one exception noted above.

In addition, the clinical relevance criteria included topical interest or timeliness (Criterion 1), not mentioned as such by non-system raters, who did, however, list interest as a criterion.

Non-system raters did list all of the other criteria which comprised the clinical relevance criteria system, although individual non-system raters did not necessarily use the entire set and many raters used only a very few.

Some non-system raters originated criteria which were not used in the clinical relevance criteria system. These criteria included: relevance to only one type of physician (i.e., raters valued breadth, since they were not evaluating for individual specialty audiences), relevance to recent patient, type of subjects, size of study population, extent of data -- completeness of study, scientific design, analysis -- or study methods used, conclusions drawn (the latter six criteria indicating academic interests as opposed to the practical focus of the clinical relevance criteria), length, illustrations, bibliography, and provision of good background information -- educational value.

EDUCATIONAL APPLICATIONS OF CLINICALLY RELEVANT ARTICLES

In addition to developing and evaluating a set of Clinical Relevance Criteria, the contract specified that PMI would "explore educational and patient care uses to which a core collection of current journal articles relevant to practice could be put and to provide examples of such uses as seem most feasible".

Deliberations during the course of the contract among PMI staff members and consultants yielded concensus that one of the most promising potential educational applications of a core collection of current journal articles judged to be relevant to clinical practice would be in the development of physician self-assessment exams based on the information contained in articles so identified.

PMI has extensive experience in designing physician self-assessment exams as a result of several years of work in developing the Core Content Review, a series of review exams covering all aspects of family practice, for the Connecticut and Ohio Academies of General Practice. These exams consist of both multiple choice and true-false questions which are printed in a booklet which is mailed to participating physicians for self-administration in their offices or homes at their convenience. After a specified period of time participating physicians receive a second booklet containing correct answers and annotations to the questions as well as references. In addition to supplying a direct educational experience, use of this format permits the individual physician to assess objectively his educational needs and provides information to guide his further continuing education efforts.

Test Questions for these exams were developed by prominent Boston-area medical school teachers and researches were then screened by PMI. Question writers were free to use as a data base for their questions what ever information they thought family practitioners should be conversant with. Under the current contract this concept was modified by asking similar question writers to create questions based on the content or information contained in a sample of those journal articles most frequently selected in the study as being clinically relevant (based on frequency of recommendation as priority "must" needing), i.e., an attempt was made to develop a sample set of questions appropriate to a physician self-assessment exam like the one described above using as a data base a sample of a "core collection of current journal articles relevant to practice".

The five most highly rated (as defined above) articles of each of the ten journals (the contents of only a single issue of each was examined in the study) in the study were selected (see appendix C for a list of the articles selected). One of ten question writers (as defined above) was assigned to each group of five articles and was asked to write 3 - 4 questions per article. Reprints of the appropriate articles were supplied to the question writers. In addition to compiling questions, answers, annotations and references, question writers were asked to gear some of their questions to the current knowledge needs of specialists and other questions to the needs of generalists. Question writers were asked to appropriately identify the category into which each question fell, i.e. generalist applicable, specialist applicable or both generalist and specialist applicable. A portion of the specific instructions to question writers was as follows:

> "....we are trying to develop sample self-assessment exams or teaching exercises based on the literature identified as most clinically relevant by our criteria system. That is, we would like to construct a series of multiple choice questions which reflect the essential information contained in a sample of the articles which rated highest on our criteria of clinical relevance. Enclosed are five of the more highly rated articles from an issue of one of the journals in the study. We would like you to write a series of approximately three to four (3 - 4) multiple choice questions for each of the articles (or 15 - 20 questions in all.) The correct answer to each question should be indicated, and a brief comment or annotation explaining why the answer is correct should be included for each question.
>
> In addition please list several pertinent references for each of the questions. (The article itself, of course, should be included among the references and others may be taken from its own bibliography). The questions should be geared to testing knowledge or understanding of the essential information or points contained in each article. It is quite possible that not all articles or all material within a given article will be equally applicable to the information needs of both specialists and generalists. Therefore, please design some questions geared to the current knowledge needs of specialists and other questions appropriate for generalists. Individual questions should be labelled to indicate whether they are "specialist applicable", "generalist applicable", or "both specialist and generalist applicable."

> For your reference, I am enclosing samples of similar questions that were developed for use in the Core Control Review, a self-assessment exam for family practitioners. While these questions were specifically developed to cover only family practice and were not generated from specific articles, they should provide an indication of the question, answer, etc. form which we would like you to follow. I am also enclosing special forms on which we would like you to type your questions, answers, annotations and references. Simply fill out a form for each article (listing title, etc.) and type your questions, etc. below...."

The ten question writers generated a total of over 150 sample question items. The questions, answers, annotations and references appear in appendix D unedited and as submitted to PMI on standardized forms. As is evident from the comments of question writers and from inspection of the material produced, it would be quite feasible to generate appropriate test items from a core collection of current journal articles which have been identified as relevant to clinical practice. Furthermore, question writers seemed to be able to design both specialist and generalist oriented questions based on the content of a given article. Thus within this technique there would seem to exist a potential for using a common data base to create a variety of generalist and specialist oriented self-assessment review exams.

SUMMARY OF RESULTS

Group Comparisons

The editors, academicians, and practitioners from five fields were compared on their tendency to rate articles in their specialty field as must reading for a) specialists in that field b) specialists in outside fields and c) a total of ratings across the five specialty fields plus a general rating for primary physicians. The editors used the clinical relevance criteria. Half of the academicians and practitioners used the clinical relevance criteria, half did not use it.

The articles were rated as must reading for practitioners in the article's specialty field 61% of the time by the editors, 43% of the time by the academicians, and 54% of the time by the practitioners. The articles were rated as must reading for practitioners in each of four outside fields 11% of the time by the editors, 11% of the time by the academicians, and 14% of the time by the practitioners. The articles were rated as must reading in the combined six categories (five specialty fields plus primary physicians generally) 21% of the time by the editors, 18% of the time by the academicians, and 24% of the time by the practitioners. In sum, the editors rated the articles highest in their specialty field and the practitioners rated them highest outside their specialty field.

The academicians and practitioners who used the clinical relevance criteria were compared to those who did not use it. Articles were rated as must reading in the article's specialty field 44% of the time by the criteria users and 53% of the time by the non-users. Articles were rated as must reading for practitioners in each of four outside fields 11% of the time by criteria users and 14% of the time by non-criteria users. Articles were rated as must reading across each of the six categories 18% of the time by criteria users and 24% of the time by non-users. In sum, users were less likely to give the articles a positive rating than were non-users.

There was very little difference between academicians using and academicians not using the criteria system on each of the three scores. However, the practitioners who used the criteria rated consistently fewer articles as must reading across the three scores than did the practitioners who did not use the criteria. Virtually all of the difference between physicians using and not using the criteria was due to the differences for the practitioners.

The physicians (academicians and practitioners) in each of the five specialty fields were compared. The ratings of articles as must reading in the articles specialty field ranged from 41% for obstetricians-gynecologists to 56% for pediatricians. The ratings as must reading for each of the four outside fields ranged from 9% by obstetricians-gynecologists to 31% by general practitioners. The ratings as must reading for primary physicians generally ranged from 16% by surgeons to 35% by general practitioners. The articles in general practitioner journals are relevant for other specialists more often than the articles from journals in the other four specialties.

Correlational Analyses of "Must Reading" Scores

Correspondence between users and non-users of the clinical relevance criteria was studied using three scores. The three scores used were the proportion of physicians who rated articles in their specialty field as must reading for physicians a) in their specialty field, b) in each of four outside specialty fields and c) in general as primary physicians.

For academicians, there was a moderate amount of correspondence between users and non-users of the clinical relevance criteria system. For practitioners, there was only a very limited correspondence between users and non-users of the criteria system.

Correlations were done among editors, academicians and practitioners, all of whom used the clinical relevance criteria system. Correlations for the three pairs of physicians were low for the specialty field score and were moderate for the outside fields score and the primary physicians score. Academicians and practitioners who did not use the criteria system showed only a moderate agreement with each other and with the editors on each score.

Academicians and practitioners who used the criteria were in somewhat higher agreement with one another on two scores (the outside fields score and the primary physicians score) than were academicians and practitioners who did not use the criteria.

Regression Analysis of PMI Criteria

Each physician rated each article on the eight clinical relevance criteria and on the overall criterion of must reading. He did this for his own field, for each of four outside fields and for primary physicians generally. For each score, a stepwise regression was done using the eight PMI criteria as potential predictors and the must reading score as the criterion. The stepwise regression formula was used to select the best three predictors (out of the eight criteria) to predict the must reading score.

For all physicians combined (editors, academicians and practitioners), criteria 4, 1 and 8 in that order, were generally the best predictors. These same three predictors were typically found when editors, academicians and practitioners were studied separately. The three groups were suprisingly alike in terms of which three preditors were effective and in terms of their overall predictive value.

Appraisal of the Clinical Relevance Criteria System

All physicians who evaluated articles using the clinical relevance criteria, then completed a form to evaluate those criteria. Some of the main results of that evaluation are summarized here.

Most of the physicians (59 to 19) favored weighing some of the criteria more heavily than others. The criteria recommended for the heaviest weighting were 4, 3, 1 and 7 in that order. Most physicians (68 to 12) indicated that the clinical relevance criteria system has intrinsic merit. Most physicians (63 to 15) feel that the differential evaluation of journal articles relative to specific target audiences is appropriate. Most physicians (51 to 20) opposed having a different system of criteria and opposed (56 to 12) having a totally different approach to article evaluation.

Evaluation Criteria Originated by Raters Not Using The Clinical Relevance Criteria.

Raters who were not asked to use the clinical relevance criteria were asked instead to use their own criteria and to list those criteria. The independently-originated criteria could be grouped into five major categories: importance (listed by raters 1372 times), research design (listed 472 times), presentation (listed 423 times), topic (listed 363 times), and information (listed 280 times).

The largest category, importance with 1872 responses, included importance to practice (listed by raters 547 times), relevance to many cases or doctors (listed 487 times), general relevance - important vs. trivial (367 times), value of article limited (238), relevance to important cases (123), relevance to only one type of physician (59), and relevance to recent patient (51).

In comparison to the clinical relevance criteria system, the set of criteria originating with non-system raters was strikingly different in one respect: there was no differential evaluation by type of audience except in regard to background information. In addition, the clinical relevance criteria included topical interest or timeliness (criterion 1), not mentioned as such by non-system raters, who did, however, list interest as a criterion.

Non-system users did list all of the other criteria which comprised the clinical relevance system, although individual non-system users did not necessarily use the entire set and many raters used only a very few. Some non-system raters also originated criteria which were not used in the clinical relevance criteria system.

DISCUSSION

The study was designed to bring evidence to bear on four questions:

Question 1. Do editors, academicians, and community hospital practitioners have the same or differing perspectives on "clinical relevance", i.e., do they select the same material or different material when picking articles that they judge to be clinically relevant?

In terms of their overall tendency to rate articles as must reading, in their specialty field, editors gave a positive rating 61% of the time, academicians 43% of the time, and practitioners 54% of the time. For each of four outside fields, editors gave a positive rating 11% of the time, academicians 11% of the time, and practitioners 14% of the time. For general must reading for primary physicians, editors gave the articles a positive rating 21% of the time, academicians 18% of the time, and practitioners 24% of the time. Thus, editors favorably viewed articles as must reading in their specialty field, with academicians giving the least favorable rating. The three groups of physicians did not differ appreciably in terms of their rating articles as must reading in each of four outside fields. The practitioners were most likely to rate articles positively for primary physicians, and academicians were the least likely to rate articles positively for primary physicians to read.

Academicians who used the PMI criteria system rated articles positively about the same percentage of the time as did academicians who did not use the criteria. However, practitioners who used the criteria rated consistently fewer articles as must reading than did the practitioners who did not use the criteria. Thus the practitioners who did not use the criteria were discrepant (rated more articles positively) from the practitioners using the criteria, the academicians using the criteria, and the academicians not using criteria.

The editors, academicians, and practitioners were highly similar in the internal relationship that existed among the ratings on each of eight criteria to the must reading score. This similarity was described in the section of Results called "Regression Analysis of PMI Criteria".

The part of question 1 pertaining to whether editors, academicians and practitioners pick the same individual articles as must reading will be answered under question 2.

Question 2. Does the clinical relevance criteria system facilitate making consistent judgements of clinical relevance, i.e., is there greater intergroup reliability among users of the system than among those who had to rely on their own criteria?

Editors, all of whom used the clinical relevance criteria system were compared to academicans and practitioners, half of whom used and half of whom did not use the criteria system. Across the three sets of must reading scores (specialty field, outside fields, and primary physicians), the average of the correlations between the editors and the academicans and practitioners who used the criteria was .27. The average of the correlations between the editors and the academicians and practitioners who did not use the criteria system was .33. Thus the amount of agreement between the editors and the academicans and practitioners was rather low regardless of whether the latter two groups used the clinical relevance criteria.

The correlations for the must reading rating between academicians and practitioners who used the clinical relevance criteria were .23 for specialty field score, .60 for the outside fields score and .48 for the primary physicans general reading score. The amount of agreement was reasonable on the latter two scores.

The correlations for the must reading ratings between academicians and practitioners who did not use the criteria were .35 for the specialty fields score, .41 for the outside fields score and .20 for the primary physicians general reading score. Thus the amount of agreement on the rating of individual articles was only moderate on the first two scores and was low on the last score.

Overall, there was more agreement between academicians and practitioners who used the criteria than between those who did not - that is, the average of the correlations between criterion users was .44, and between non-users was .32. This higher agreement between criterion users, however, was limited to the outside fields ratings and to the general ratings for primary physicians.

A second set of analyses was done to compare users and non-users of the criteria on their ratings of articles as "must reading." The correlations between academicians who were users and non-users of the criteria system were .34 for specialty field score, .51 for outside field score, and .39 for the general rating for primary physicians. The correlations between practitioners who were users and non-users of the criteria system were .28 for the specialty field score, .24 for the outside fields score, and .03 for the general rating for primary physicians. Thus there was more agreement among academicians than among practitioners in their ratings of individual articles - that is, the average of the correlations was .41 for academicians and only .18 for practitioners. The amount of agreement among users and non-users was moderate for academicians and low for practitioners.

In summarizing the answers to Questions 1 and 2, it seems that the non use of the clinical relevance criteria results in the practitioners' rating the articles a bit high, and in their being somewhat discrepant in rating individual articles when compared to practitioners who used the criteria and to academicians regardless of whether they used the criteria. The practitioners who used the criteria were rather consistent with both groups of academicians in their overall tendency to rate articles positively. The latter three groups were moderately consistent in their tendency in rating the same individual articles as must reading.

In short, the clinical relevance criteria system seems to help when the raters are practitioners, but seems to have little effect on ratings when the raters are academicians.

Question 3. Does the system as a whole or parts thereof, have valid predictability in terms of an evaluator's overall judgement of an article's clinical relevance?

The analyses of "must reading" ratings were undertaken under Question 2. The following analyses will pertain to the interval relations of the clinical relevance criteria system (see Appraisal of Article Evaluation System CRLS 23 -- in Appendix A.)

The three best predictors (out of the eight criteria) were used to predict the must reading score. As there was little difference between editors, academicians, and practitioners, the results are presented for all of them combined. The multiple correlation value between the three best predictors and the must reading rating are .62 for the specialty field score, .64 for the outside fields score, and .52 for the general rating for primary physicians. The first two are moderately high and the latter is moderate. Perhaps it is a bit difficult to apply the rather specific individual criteria in the general case of the general rating for primary physicians.

The interval consistency is reasonable for the three criteria (4, 1 and 8) and their relation to the must reading score. For the purpose of simply predicting the must reading score, these three criteria are the only ones necessary - adding the other five does little to increase the predictions, as their information may be statistically redundant with the three best predictors.

Question 4. Does the criteria system facilitate making differential judgements of a given article's clinical relevance to more than one specialty, particularly with respect to identifying potentially valuable articles for one specialty that may be published in another specialty's journals?

Yes, somewhat. On the must reading score, for criteria users, the correlation between academicians and practitioners was .60 for the outside fields score and was .48 for the general rating for primary physicians. For non-users the correlation between academicians and practitioners was .41 for the outside fields score and .20 for the general rating for primary physicians. Thus there was more agreement (reliability) between academicians and practitioners when they used the clinical relevance criteria. This effect seems to exist because practitioners who did not use the criteria rated articles rather unlike the other groups of physicians.

It should be kept in mind that some specialty fields such as general practice have many articles which are suited for other specialist while other fields such as obstetrics-gynecology have only a few articles suited for outside specialists.

General Discussion

When practitioners rated articles for must reading, their ratings were more similar to other groups of physicians when the practitioners used the eight clinical relevance criteria than when they did not. The use of the criteria made little difference for academicians. Thus the criteria appear to help the practitioners but do not affect the academicians appreciably.

Considerable evidence exists in this report that can be used to revise the system of clinical relevance criteria or develop a new system. It seems feasible to have fewer than eight criteria - only three were needed to predict the must reading score. Perhaps five criteria - somewhat revised from the existing ones - would suffice nicely for the purpose of rating medical journal articles for clinical relevance.

In this study, individual articles were rated by groups of raters averaging 3.5 physicians in size. The key problem is that the rating groups were in only moderate agreement with one another as to which individual articles were considered to be must reading. The present system or a facimile thereof would not be reliable (precise) enough to rate all the articles in a journal well enough to have the ratings be worthy of publication. The present system is precise enough for the purpose of locating the small number of articles that the raters can agree on as being must reading. A system can be imprecise in general, yet be suitable for locating articles in either extreme of popularity. Such an approach would seem suitable for locating articles for a core list or library or for the preparation for a medical exam as was illustrated in this study.

An alternate system designed to select a small percentage of articles for must reading, might involve making a rough sort of all the articles into a moderate sized pile of "likely candidates" that then could be rated more carefully by a group of physicians to determine the final selection.

For the purpose of developing a more precise rating system, the following procedures should prove helpful;

1. Possibly the raters could be selected or trained in a way to increase their agreement on rating individual articles.
2. The number of raters in a group could be somewhat larger than the present study's average group size of 3.5.
3. Instead of there being a "must reading" vs. "not must reading" choice, there could be, say, a five point scale ranging from "definitely not must reading" to "definitely must reading." This latter scale would enable a rater to more precisely express his opinion of the article.

Even with one or more of the above three recommendations, it cannot be guaranteed in advance that all the articles in a journal could be rated precisely enough that the results could be published - the system would have to be tried and examined first.

There were fewer articles recommended for "must reading" in individual outside specialties than in the journal's specialty field. In obstetrics-gynecology, articles were recommended for "must reading" by a given outside specialist only 9% of the time. Perhaps only 2 or 3% of the articles would turn out to be agreed upon by the rating group as being must reading for a given outside specialist. In general practice, the number of articles that could be agreed upon as must reading for a given outside specialist would be higher. The returns, in this sense, would also be rather low in surgery and somewhat limited in internal medicine and pediatrics. A low rate of return does not necessarily imply low importance. (See right had column of Tables 6 and 8.)

Articles were also rated for general must reading by primary physicians. The percentage of articles positively rated range from 16% in Surgery to 35% in general practice. The percentage of articles that could be agreed upon by a group of raters would definitely be lower than these figures. (See the right hand column of Tables 6 and 9.) However, with a two stage sorting system, as described above, it might be possible to locate extreme articles for general must reading by primary physicians.

A system of selecting articles would result in the largest number of "must reads" when the articles were rated for specialists in the journal's specialty field. The percentage of articles rated for "must reading" in the journal's specialty field ranged from 41% in obstetrics-gynecology to 56% in pediatrics. (See Tables 6 and 7.) A much smaller percentage of individual articles, however, would be actually agreed upon by a rating group as must reading in their specialty field under the present rating system.

Appendix A

Article Evaluation Form (CRLS 43)

POSTGRADUATE MEDICAL INSTITUTE
30 The Fenway
Boston, Mass. 02115

B.O.B. # 68-S70074
Expiration Date - June 30, 1971
Form CRLS 43

ARTICLE EVALUATION FORM

Clinical Relevance of Published Articles for Multiple Audiences

Title of Article____

Name of Journal________________________ Date of Publication________________
Mo. Day Year

Senior Author__________________________ Page__________

On this sheet, please rate the clinical relevance of the article to each of the following six (6) target audiences:

G = General Practitioners
I = Internists
P = Pediatricians
O = Obstetrician-Gynecologists
S = General Surgeons
GIPOS = Combined Group acting as Primary Physicians

CRITERIA	POSSIBLE SCORE 1 to 6 points (6 is highest value)	AWARDED SCORE Award points by circling one Number in Each Box Below:					
		G	I	P	O	S	GIPOS
1. Topical interest of article to each audience (i.e., how timely is the subject)	Score each target audience independently	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
2. Comprehensibility of article to each audience (i.e., not dependent on specialized knowledge)	Score each target audience independently	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
3. Frequency of applicability of article's information to the clinical practice of each audience (i.e., how often will the information be used)	Score each target audience independently	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
4. Significance of article's information to the clinical practice of each audience (i.e., potential impact on care of individual patients)	Score each target audience independently	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
5. Adequacy of article's background explanation for each audience (i.e., how well is the topic area explained)	Score each target audience independently	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6	1 2 3 4 5 6
6. Originality of article's information (i.e., how new is the knowledge)	Same score for all target audiences	1 2 3 4 5 6					
7. Validity of article's information (i.e., are statements, claims and conclusions well supported)	Same score for all target audiences	1 2 3 4 5 6					
8. Quality of writing (i.e., style, as distinct from comprehensibility)	Same score for all target audiences	1 2 3 4 5 6					

OVERALL ASSESSMENT: The clinical value of this article warrants its recommendation for priority ("must") reading by the following target audience (s):

Circle letters corresponding to recommended audience (s) G I P O S GIPOS NONE

Name (print)__________________________ Position__________________

All information regarding individuals and their views or opinions will be held in strict confidence. Only statistical summaries of the study's results will be published

Appendix A

Article Evaluation Form (CRLS 63)

POSTGRADUATE MEDICAL INSTITUTE
30 The Fenway
Boston, Mass. 02115

B.O.B. # 68-S70074
Expiration Date - June 30, 1971
Form CRLS 63

ARTICLE EVALUATION FORM

Clinical Relevance of Published Articles for Multiple Audiences

Title of Article ______________________________

Name of Journal ______________________ Date of Publication ______________ Mo Day Year

Senior Author ______________________ Page __________

On this sheet, please rate the clinical relevance of the article to each of the following six (6) target audiences:

G = General Practitioners
I = Internists
P = Pediatricians
O = Obstetrician-Gynecologists
S = General Surgeons
GIPOS = Combined Group as Primary Physicians

OVERALL ASSESSMENT: The clinical value of this article warrants its recommendation for priority ("must") reading by the following target audience (s):

Circle letters corresponding to recommended audience (s)   G I P O S   GIPOS   NONE

Please list below the criteria you utilized to evaluate the clinical relevance of this article. List the criteria in order of importance with the most important first:

1. ______________________________
2. ______________________________
3. ______________________________
4. ______________________________
5. ______________________________
6. ______________________________
7. ______________________________
8. ______________________________
9. ______________________________
10. ______________________________

(Use reverse side if additional space is needed)

Name ______________________ Title ______________________

All information regarding individuals and their views or opinions will be held in strict confidence. Only statistical summaries of the study's results will be published.

Appendix A

Appraisal of Article Evaluation Systems

(CRLS 23)

POSTGRADUATE MEDICAL INSTITUTE
30 The Fenway
Boston, Massachusetts 02115

B.O.B. # 68-S70074
Expiration Date - June 30, 1971
Form CRLS 23

APPRAISAL OF ARTICLE EVALUATION SYSTEM

Having used the Article Evaluation Form, please indicate your reactions to it by answering the following questions:

A. What, if any, additional criteria would you add to the present system?

1. ____________________

____

2. ____________________

____

3. ____________________

____

B. Which, if any, of the criteria would you omit from the present system?

____

____

Please state reason(s): ____________________

____

C. Should one or more of the listed criteria be weighted more heavily than others, i.e., carry more importance:

Yes ________ No ________

If Yes, please elaborate (including your recommendations for relative weight or importance).

____

____

____

____

____

D. Do you think that this journal article evaluation system has intrinsic merit?

Yes ________ No ________

Please comment: ____________________

____

E. Do you feel that the differential evaluation of journal articles relative to specific target audiences is appropriate?

Yes________ No__________

Please explain:____

____

____

F. Would you prefer a different system of criteria?

Yes________ No__________

If Yes, please describe:____

____

____

____

G. Would you prefer a totally different approach to article evaluation?

Yes________ No__________

If Yes, please describe:____

____

____

____

H. Additional comments (Use back of sheet if further space is needed):

____

____

____

____

____

____

____

____

Name______________________________ Title ______________________________

All information regarding individuals and their views or opinions will be held in strict confidence. Only statistical summaries of the study's results will be published.

Appendix A

Sample Cover Letter (CRLS 4a) to Academicians Using Criteria

SAMPLE COVER LETTER
TO ACADEMIANS USING CRITERIA

CRLS 4a

ROBERT P. MC COMBS, M.D.
PRESIDENT

JAMES L. TULLIS, M.D.
VICE PRESIDENT

MILTON C. PAIGE, JR.
SECRETARY TREASURER

NORMAN S. STEARNS, M.D.
EXECUTIVE DIRECTOR

GEORGE T. NILSON
FIELD DIRECTOR

RICHARD A. CARTER
ADMINISTRATIVE DIRECTOR

POSTGRADUATE MEDICAL INSTITUTE
UNDER SPONSORSHIP OF THE MASSACHUSETTS MEDICAL SOCIETY 30 FENWAY, BOSTON, MASSACHUSETTS 02215 TEL. (617) 262-3040

John JOnes, M.D.
1 Boston Place
Boston, Massachusetts

Dear Dr. Jones:

Thank you for agreeing to participate in Postgraduate Medical Institute's project to develop a method for identifying the journal articles most relevant and applicable to clinical practice. The goals and objectives of the project, which we have entitled "Clinically Relevant Literature Study", are summarized in the accompanying Introduction to Participants.

General Practitioners, Internists, Pediatricians, Obstetrician-Gynecologists, and General Surgeons are frequently called upon to function as primary physicians, as well as specialists. A system to evaluate journal literature for such physicians should, therefore, permit one to simultaneously and differentially evaluate the potential value of a given article to both the common knowledge needs of primary physicians and the unique knowledge needs of specialists. A number of editors, medical academicians, and practitioners helped formulate a system of criteria for evaluating the clinical relevance of an individual article to the five types of specialists: General Practitioners (G), Internists (I), Pediatricians (P), Obstetrician-Gynecologists (O), and General Surgeons (S), as well as its relevance to these same specialists serving as primary physicians (GIPOS).

COLLABORATING AGENCIES
BOSTON UNIVERSITY SCHOOL OF MEDICINE BROWN UNIVERSITY, DIVISION OF BIOLOGICAL AND MEDICAL SCIENCES DARTMOUTH MEDICAL SCHOOL HARVARD MEDICAL SCHOOL
HARVARD SCHOOL OF PUBLIC HEALTH UNIVERSITY OF MASSACHUSETTS SCHOOL OF MEDICINE TUFTS UNIVERSITY SCHOOL OF MEDICINE MASSACHUSETTS MEDICAL SOCIETY NEW
HAMPSHIRE MEDICAL SOCIETY RHODE ISLAND MEDICAL SOCIETY [illegible]

We are now asking you to assist with the further development of the system by performing two key tasks:

1. Review the articles in the ____________________ issue of ____, a copy of which is enclosed. Please assess the clinical relevance of every article in the issue to each of the six target audiences (G,I,P,O,S, GIPOS) by completing one of the enclosed yellow ARTICLE EVALUATION FORMS for each article.

2. Appraise the evaluation system itself. After using the system to evaluate the articles in the designated issue, then use the blue APPRAISAL OF ARTICLE EVALUATION SYSTEM FORM to expand or reduce the list of criteria, to alter the point weightings associated with individual items, and to offer any comments, reactions, or modifications which you think will be helpful.

We realize that this is a significant task to add to your already crowded agenda. However, since we are working under severe time pressures, we hope that you will find time to respond within thirty days. If you have any questions please do not hesitate to call me or my associate, Mr. Robert Gold, at (617) 262-3040. Please use the enclosed postage-paid envelope to return the completed forms. The journal issue need not be returned. We will be pleased to supply additional forms if needed.

Thank you for your help. Your response will be held in strict confidence. Any report of the study's results will reflect only aggregate data. We are grateful for your cooperation and assistance.

Sincerely,

Norman S. Stearns, M.D.
Executive Director

Enclosures
NSS/mg

Appendix A

Sample Cover Letter (CRLS 5a) to Academicians Not Using Criteria

SAMPLE COVER LETTER
TO ACADEMICIANS NOT USING CRITERIA

CRLS 5a

ROBERT P. MC COMBS, M.D.
PRESIDENT

JAMES L. TULLIS, M.D.
VICE PRESIDENT

MILTON C. PAIGE, JR.
SECRETARY TREASURER

NORMAN S. STEARNS, M.D.
EXECUTIVE DIRECTOR

GEORGE T. NILSON
FIELD DIRECTOR

RICHARD A. CARTER
ADMINISTRATIVE DIRECTOR

POSTGRADUATE MEDICAL INSTITUTE
UNDER SPONSORSHIP OF THE MASSACHUSETTS MEDICAL SOCIETY 30 FENWAY, BOSTON, MASSACHUSETTS 02215 TEL. (617) 262-3040

George Smith, M.D.
3 Elm Street
Boston, Massachusetts

Dear Dr. Smith:

Thank you for agreeing to participate in Postgraduate Medical Institute's project to develop a method for identifying the journal articles most relevant and applicable to clinical practice. The goals and objectives of the project, entitled "Clinically Relevant Literature Study", are summarized in the accompanying Introduction to Participants.

General Practitioners, Internists, Pediatricians, Obstetrician-Gynecologists and General Surgeons are frequently called upon to function as primary physicians, as well as specialists. A system to evaluate journal literature for such physicians should, therefore, permit one to simultaneously and differentially evaluate the potential value of a given article to both the common knowledge needs of primary physicians and the unique knowledge needs of specialists. We are asking a number of editors, medical academicians, and practitioners to help formulate a system of criteria for evaluating the clinical relevance of an individual journal article to the five types of specialists: General Practitioners (G), Internists (I), Pediatricians (P), Obstetrician-Gynecologists (O), and General Surgeons (S), as well as its relevance to these same specialists serving as primary physicians (GIPOS).

We are now asking you to assist with the further development of the system by performing two key tasks:

1. Review the articles in the ________________________ issue of ____, a copy of which is enclosed. Please assess the clinical relevance of every article in the issue to each of the six target audiences (G, I, P, O, S, GIPOS) by completing one of the enclosed pink ARTICLE EVALUATION FORMS for each article.

2. On the same form, please list, in order of importance, the criteria which you used to decide whether or not an article should be recommended for priority reading by the various target audiences.

We realize that this is a significant task to add to your already crowded agenda. However, it would be most helpful to us if you could respond within thirty days. If you have any questions please do not hesitate to call me or my associate, Mr. Robert Gold, at (617) 262-3040. Please use the enclosed postage-paid envelope to return the completed forms. We will be pleased to supply additional forms if needed.

Thank you for your help. All information regarding individuals and their views or opinions will be held in strict confidence. Only statistical summaries of the study's results will be published.

We are grateful for your cooperation and assistance.

Sincerely,

Norman S. Stearns, M.D.
Executive Director

Enclosures
NSS/mg

Appendix A

Introduction to Participant (CRLS 15) for Academicians Using Criteria

SAMPLE INTRODUCTION TO PARTICIPANTS
CRLS 15 FOR ACADEMICIANS USING CRITERIA

ROBERT P. MC COMBS, M.D.
PRESIDENT
FRANK P. FOSTER, M.D.
VICE PRESIDENT
MILTON C. PAIGE, JR.
SECRETARY TREASURER
NORMAN S. STEARNS, M.D.
EXECUTIVE DIRECTOR
GEORGE T. NILSON
FIELD DIRECTOR
RICHARD A. CARTER
ASSISTANT DIRECTOR FOR
FINANCIAL AFFAIRS

POSTGRADUATE MEDICAL INSTITUTE
UNDER SPONSORSHIP OF THE MASSACHUSETTS MEDICAL SOCIETY 30 FENWAY, BOSTON, MASSACHUSETTS 02215 TEL. (617) 262-3040

CLINICALLY RELEVANT LITERATURE STUDY

A Study to Develop Criteria for Identification of Journal Literature Relevant to Clinical Practice

Introduction to Participants

The conscientious medical practitioner has always faced a formidable task in satisfying his need and desire to remain abreast of current medical knowledge. His problem has been intensified by the scientific knowledge explosion of recent years. The accompanying proliferation of medical literature has brought with it new or broadened areas of immediate relevance to his clinical practice. The practicing physician is frustrated by the need to devote a disproportionate amount of his available reading time to screening the mass of published material for those bits of information most critical to his needs.

General Practitioners (G), Internists (I), Pediatricians (P), Obstetrician-Gynecologists (O), and General Surgeons (S) may serve both as primary physicians and specialists, and therefore must be fully aware of significant medical advances, not only in their own fields, but in other areas which relate to the general care of their patients. The bulk of their time and energy must of necessity be spent dispensing their services,permitting little time to search for essential information.

The Core Medical Library [1] developed by Postgraduate Medical Institute (PMI) is one attempt to present an organized, easily accessible set of books and journals encompassing the clinical practice of medicine. However, even this highly select collection (48 books and 39 journals) presents a formidable amount of material for regular and effective review. A physician's reading efforts would be more productive if he could readily identify that journal material most relevant and applicable to his clinical practice. Accordingly, PMI is attempting to identify and establish criteria which editors and consultant specialists could use to select those specific journal articles which deserve priority reading by practicing physicians. It is hoped that selective application of appropriate criteria would permit identification of articles important to doctors serving either as specialists (G, I, P, O, or S) or in their collective roles as primary physicians (GIPOS).

---

[1] Stearns, N.S., Ratcliff, W.W.: A Core Medical Library for Practitioners in Community Hospitals. New England Journal of Medicine. 280: 474-480, 1969.

The Division of Physician Manpower, Bureau of Health Professions Education and Manpower Training, National Institutes of Health, has acknowledged the potential utility of such an approach to the objective identification of clinically relevant literature and has authorized PMI to pursue it. As a preliminary step, and with the assistance of a limited number of editors and consultants, PMI has established a set of criteria as a basis for evaluating the clinical relevance of individual journal articles. However, we feel that a system of criteria for this purpose must be evaluated and modified by journal editors and consultants who have knowledge, skill, and experience relative to the selection, publication, and use of medical literature, and who will be objective and critical in their use and review of the system itself. In this context, PMI sees itself largely as a catalyst, stimulating and coordinating the collective expertise of those who are most familiar with the generation of journal articles and the needs of the medical practitioner. It should be stressed that the goal of this study is the development of criteria that will lead to the identification of certain material relevant to the most urgent needs of a particular group of physicians; and that it is not the intent of PMI to provide a basis for limiting or selecting material to be published.

PMI is seeking the cooperation of consultant specialists who are experienced in reviewing material submitted for publication in prominent medical journals. We are asking that these consultants review the material published in selected journals during a limited period, that they use PMI's proposed system to evaluate the relative clinical importance of the articles in the designated issue(s), and that they critically assess the article evaluation system itself. This process should, ultimately yield an identified body of selected journal literature and a system of criteria capable of permitting committed selection of further literature pertinent to the clinical needs of practicing physicians.

Appendix A

Introduction to Participants (CRLS 16) for Academicians Not Using Criteria

CRLS 16 SAMPLE INTRODUCTION TO PARTICIPANTS
FOR ACADEMICIANS NOT USING CRITERIA

[illegible] F. [illegible], M.D.
PRESIDENT
FRANK P. FOSTER, M.D.
VICE PRESIDENT
MILTON C. PAIGE, JR.
SECRETARY TREASURER
NORMAN S. STEARNS, M.D.
EXECUTIVE DIRECTOR
GEORGE T. NILSON
FIELD DIRECTOR
RICHARD A. CARTER
ASSISTANT DIRECTOR FOR
FINANCIAL AFFAIRS

POSTGRADUATE MEDICAL INSTITUTE
UNDER SPONSORSHIP OF THE MASSACHUSETTS MEDICAL SOCIETY 30 FENWAY, BOSTON, MASSACHUSETTS 02215 TEL. (617) 262-3040

CLINICALLY RELEVANT LITERATURE STUDY

A Study to Develop Criteria for Identification of Journal Literature Relevant to Clinical Practice

Introduction to Participants

The conscientious medical practitioner has always faced a formidable task in satisfying his need and desire to remain abreast of current medical knowledge. His problem has been intensified by the explosion of scientific knowledge in recent years. The accompanying proliferation of medical literature has brought with it new or broadened areas of immediate relevance to his practice. The practicing physician is frustrated by the need to devote a disproportionate amount of his available reading time to screening the mass of published material for those bits of information most critical to his needs.

General Practitioners(G), Internists (I), Pediatricians (P), Obstetrician-Gynecologists (O), and General Surgeons (S) may serve both as primary physicians and specialists,and therefore must be fully aware of significant medical advances, not only in their own fields, but in other areas which relate to the general care of their patients. The bulk of their time and energy must of necessity be spent dispensing services, permitting little time to search for essential information.

The Core Medical Library [1] developed by Postgraduate Medical Institute (PMI) is one attempt to present an organized, easily accessible set of books and journals encompassing the clinical practice of medicine. However, even this highly select collection (48 books and 39 journals) presents a formidable amount of material for regular and effective review. A physician's reading efforts would be more productive if he could readily identify that journal material most relevant and applicable to his clinical practice. Accordingly, PMI is attempting to identify and establish criteria which editors and consultant specialists could use to select those specific journal articles which deserve priority reading by practicing physicians. It is hoped that selective application of appropriate criteria would permit identification of articles important to doctors serving either as specialists

[1] Stearns, N.S., Ratcliff, W.W.: A Core Medical Library for Practitioners in Community Hospitals. New England Journal of Medicine. 280: 474-480, 1969.

COLLABORATING AGENCIES
BOSTON UNIVERSITY SCHOOL OF MEDICINE BROWN UNIVERSITY DIVISION OF BIOLOGICAL AND MEDICAL SCIENCES DARTMOUTH MEDICAL SCHOOL HARVARD MEDICAL SCHOOL
HARVARD SCHOOL OF PUBLIC HEALTH UNIVERSITY OF MASSACHUSETTS SCHOOL OF MEDICINE TUFTS UNIVERSITY SCHOOL OF MEDICINE [illegible]

(G, I, P, O, or S) or in their collective roles as primary physicians (GIPOS).

The Division of Physician Manpower, Bureau of Health Professions Education and Manpower Training, National Institutes of Health, has acknowledged the potential utility of such an approach to the objective identification of clinically relevant literature and has authorized PMI to pursue it. PMI feels that criteria can be articulated best by editors and consultants who have knowledge, skill and experience in both medical practice and in the review and selection of medical literature for publication. In this context, PMI sees itself largely as a catalyst, stimulating and coordinating the collective expertise of those who are most familiar with the generation of journal articles and the needs of the medical practitioner. It should be stressed that the goal of this study is the development of criteria that will lead to the identification of certain material relevant to the most urgent needs of a particular group of physicians and that it is not the intent of PMI to provide a basis for limiting or selecting material to be published.

PMI is seeking the cooperation of consultant specialists who are experienced in reviewing material submitted for publication in prominent medical journals. We are asking that these consultants review the material published in selected journals during a limited period, that they assess the clinical relevance of the published articles for the various groups of practitioners, and that they clearly indicate the criteria they used in determining the relative clinical merit of each article. This process should, ultimately, yield an identified body of selected journal literature and a system of criteria capable of permitting committed selection of further literature pertinent to the clinical needs of practicing physicians.

Appendix A

Sample Letter to Non-Respondents (CRLS 70)

Sample Letter to Non-Respondents

Form CRLS 70

ROBERT P. MC COMBS, M.D.
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Version 1: Editors and Consultants

POSTGRADUATE MEDICAL INSTITUTE
UNDER SPONSORSHIP OF THE MASSACHUSETTS MEDICAL SOCIETY 30 FENWAY, BOSTON, MASSACHUSETTS 02215 TEL. (617) 262-3040

Date

John Smith, M.D.
1 Smith Street
Boston, Massachusetts 01111

Dear Doctor Smith,

Approximately six weeks ago, on the basis of our earlier discussion, we sent to you the materials pertaining to your participation in Postgraduate Medical Institute's project to develop a method for identifying the journal articles most relevant and applicable to clinical practice. We had asked and hoped that you would take the time to respond within thirty days.

Time and budgetary considerations, and the personal nature of this phase of our study, have forced us to sharply limit the number of participants. Therefore, it is imperative that we obtain a response from each person who originally agreed to help us. We cannot analyze our data as planned or proceed with the next phases of our study until we have your completed forms.

If you have any questions or need additional materials, please call me at (617) 262-3040. I am sorry to press you, but in this instance your role is really essential.

Sincerely,

Norman S. Stearns, M.D.
Executive Director

Appendix B

Statistical Tables of Results

APPENDIX B

Table 1

Three-Way Analysis of Variance Comparing Groups of Physicians on Specialty Field Score

Source of variation	*df*	*MS*	*F*
PMI *vs*. non-PMI (Variable A)	1.	1.371	6.198*
Academicians *vs*. practitioners (B)	1.	2.109	9.533**
Five specialty fields (C)	4.	0.392	1.773
AB	1.	0.187	0.843
AC	4.	0.191	0.861
BC	4.	0.662	2.990*
ABC	4.	0.374	1.692
Error	748.	0.221	1.000

*p .05

**p .01

Note.-- Specialty Field Score is defined as the proportion of each group of physicians who rated journal articles in their specialty field as must reading for practitioners in that field.

APPENDIX B

Table 2

Three-Way Analysis of Variance Comparing Groups of Physicians on Outside Fields Score

Source of variation	df	MS	F
PMI vs. non-PMI (Variable A)	1.	0.173	7.904**
Academicians vs.practitioners (B)	1.	0.158	7.234**
Five specialty fields (C)	4.	1.148	52.436**
AB	1.	0.018	0.836
AC	4.	0.073	3.321*
BC	4.	0.040	1.804
ABC	4.	0.068	3.090*
Error	748.	0.022	1.000

*p .05

**p .01

Note.-- Outside Fields Score is defined as the proportion of each group of physicians who rated journal articles in their specialty field as must reading for practitioners in each of four outside fields.

APPENDIX B

Table 3

Three-Way Analysis of Variance Comparing Groups of Physicians on the Six Categories Score

Source of variation	*df*	*MS*	*F*
PMI *vs*. non-PMI (Variable A)	1.	0.740	5.475*
Academicians *vs*. practitioners (B)	1.	0.523	3.865*
Five specialty fields (C)	4.	0.722	5.338**
AB	1.	0.132	0.974
AC	4.	0.242	1.788
BC	4.	0.036	0.264
ABC	4.	0.116	0.855
Error	748.	0.135	1.000

*p .05

**p .01

Note.-- Six Categories Score is defined as the proportion of each group of physicians who rated journal articles in their specialty field as must reading for practitioners in each of the five specialty fields and in a general category including all five fields.

APPENDIX B

Table 4

Two-Way Analysis of Variance Comparing Groups of Raters Who Used the PMI Criteria on the Specialty Field Score

Source of variation	*df*	*MS*	*F*
Editors *vs*. Academicians *vs*. Practitioners (A)	2.	1.331	4.410*
Five Groups of Specialists (B)	4.	0.216	0.717
AB	8.	0.722	2.392*
Error	510.	0.302	1.000

p .05

Note.-- Specialty Field Score is defined as the proportion of each group of physicians who rated journal articles in their specialty field as must reading for practitioners in that field.

APPENDIX B

Table 5

Two-Way Analysis of Variance Comparing Academicians and Practitioners Who Did Not Use the Clinical Relevance Criteria and Editors[a] on the Specialty Field Score

Source of variation	*df*	*MS*	*F*
Editors *vs*. academicians *vs*. practitioners (A)	2.	0.929	6.960**
Five groups of specialists (B)	4.	0.267	1.997
AB	8.	0.512	3.831**
Error	511.	0.134	1.000

Note.-- Specialty Field Score is defined as the proportion of each group of physicians who rated journal articles in their specialty field as must reading for practitioners in that field.

[a] Editors used the PMI criteria in all cases.

** p .01

APPENDIX B

Table 6

Two-Way Analysis of Variance Comparing Groups of Raters Who Used the Clinical Relevance Criteria on the Outside Fields Score

Source of variation	*df*	*MS*	*F*
Editors *vs*. academicians *vs*. practitioners (A)	2.	0.001	0.047
Five groups of specialists (B)	4.	0.632	25.012**
AB	8.	0.042	1.671
Error	510.	0.025	1.000

Note.-- Outside Fields Score is defined as the proportion of each group of physicians who rated journal articles in their specialty field as must reading for practitioners in each of four outside fields.

** *p* .01

APPENDIX B

Table 7

Two-Way Analysis of Variance Comparing Academicians and Practitioners Who Did Not Use the Clinical Relevance Criteria and Editors[a] on the Outside Fields Score

Source of variation	*df*	*MS*	*F*
Editors *vs*. academicians *vs*. practitioners (A)	2.	0.089	3.686*
Five groups of specialists (B)	4.	0.987	41.059**
AB	8.	0.085	3.521**
Error	511.	0.024	1.000

Note.-- Outside Fields Score is defined as the proportion of each group of physicians who rated journal articles in their specialty field as must reading for practitioners in each of four outside fields.

[a] Editors used the PMI criteria in all cases.

* *p* .05

** *p* .01

APPENDIX B

Table 8

Two-Way Analysis of Variance Comparing Groups of Raters Who Used the Clinical Relevance Criteria on the Six Categories Score

Source of variation	*df*	*MS*	*F*
Editors *vs*. academicians *vs*. practitioners (A)	2.	0.059	1.803
Five groups of specialists (B)	4.	0.460	14.106**
AB	8.	0.095	2.908**
Error	510.	0.033	1.000

Note.-- Six Categories Score is defined as the proportion of each group of physicians who rated journal articles in their specialty field as must reading for practitioners in each of the five specialty fields and in a general category including all five fields.

** *p* .01

APPENDIX B

Table 9

Two-Way Analysis of Variance Comparing Academicians and Practitioners Who Did Not Use the Clinical Relevance Criteria and Editors[a] on the Six Categories Score

Source of variation	*df*	*MS*	*F*
Editors *vs*. academicians *vs*. practitioners (A)	2.	0.308	1.657
Five groups of specialists (B)	4.	0.729	3.921**
AB	8.	0.097	0.523
Error	511	0.186	1.000

Note.-- Six Categories Score is defined as the proportion of each group of physicians who rated journal articles in their specialty field as must reading for practitioners in each of the five specialty fields and in a general category including all five fields.

[a] Editors used the PMI criteria in all cases.

** p .01

Appendix B

Table 10

Means and Standard Deviations of Ratings by All Physicians on Each of the Clinical Relevance Criteria

Criteria	Specialty Field Rating		Sum of the Ratings For the Five Specialty Fields		General Rating For Primary Physicians	
	$\overline{X}$	SD	$\overline{X}$	SD	$\overline{X}$	SD
Criterion 1	3.71	1.61	12.30	6.03	2.50	1.50
Criterion 2	4.40	1.43	18.40	7.42	3.55	1.63
Criterion 3	2.75	1.59	9.58	5.37	1.93	1.25
Criterion 4	2.94	1.70	10.20	5.90	2.08	1.41
Criterion 5	4.17	1.45	18.00	7.39	3.48	1.60
Criterion 6	3.76[a]	1.41[a]	3.76[a]	1.41[a]	3.76[a]	1.41[a]
Criterion 7	4.30[a]	1.29[a]	4.30[a]	1.29[a]	4.30[a]	1.29[a]
Criterion 8	3.98[a]	1.23[a]	3.98[a]	1.23[a]	3.98[a]	1.23[a]
Must Reading Score	0.43	0.50	0.98	1.38	0.12	0.33

a. The means and standard deviations for criteria 6, 7, and 8 are the same across the three scores because these three criteria ratings were made once and not separately for the three scores.

Appendix B

Table 11

Correlation of Each Criterion With Each Must Reading Score

Criteria	Specialty Field: Criterion Rating Must Reading Score	Sum of Five Specialty Fields: Criterion Rating x Must Reading Score	General Rating for Primary Physicians Criterion Rating x Must Reading Score
Criterion 1	0.537	0.570	0.479
Criterion 2	0.380	0.400	0.325
Criterion 3	0.492	0.486	0.446
Criterion 4	0.584	0.592	0.471
Criterion 5	0.357	0.393	0.329
Criterion 6	0.115	0.092	0.030
Criterion 7	0.226	0.263	0.203
Criterion 8	0.245	0.315	0.258

Note -- Correlations represent ratings by all raters (editors, academicians, and practitioners) combined.

Appendix C

Articles Used as Data Base for Sample Self-Assessment Exam Questions

Articles Used as Data Base for Sample Self-Assessment

Exam Questions

(Journal, Volume, Number, Publication Date, Article Title, Author)

American Family Physician/GP Volume 2, Number 5, November 1970.

Ankylosing Spondylitis
John F. Calabro, Bertram A. Maltz, Paul Sussman

Management of Respiratory Failure
John A. Kibelstis

The Peripheral Blood in Malignancy
O'Neill Barrett, Jr.

Care of Common Foot Problems
Rene Cailliet

Diagnosis and Management of Flu
Mary M. Carruthers

New England Journal of Medicine Volume 283, Number 19, 1979,
November 5, 1970

Artificial Cardiac Pacemakers
Bernard Town and Bernard D. Kosowsky

Reserpine in Thyrotoxic Crisis
Pauline T. Dillon, John Babe, C.R. Meloni, and John J. Canary

Psychiatric Complications of Open-Heart Surgery
Stanley Heller et al.

Home Transfusions for Patients with Hemophilia A
S. Frederick Rabiner and Margaret C. Telfer

Necrotizing Angiitis in Drug Addicts
B. Phillip Citron et al.

Annals of Internal Medicine Volume 73, Number 5, November 1970

Rubella Virus Vaccine - Recommendation of the Advisory Committee on Immunization Practices, U.S. Public Health Service

Annals of Internal Medicine (continued)

Pentamidine Isethionate in the Treatment of Pneumocystic Carini Pneumonia
Western, Perera, Schultz

Centrilobular Hepatic Necrosis and Acute Renal Failure in "Solvent Sniffers."
Baerg, Kimberg

Pathophysiology and Therapy of the Shock of Myocardial Infarction
Haddy

Recent Advances in Immunization Against Viral Disease
Stokes

The American Journal of Medicine Volume 49, Number 4, October 1970

The Pacemaker Sound
Morton Korn, Clyde D. Schoenfeld, Ali Ghahramani, Philip Samet

Exercise-Induced S-T Segment Elevation. Clinical, Electro-cardiographic and Arteriographic Studies in Twelve Patients
Nicholar J. Fortuin, Gottlieb C. Friesinger

Zoster, Reinfection or Activation of Latent Virus?
Observations on the Antibody Response
Laurence H. Miller, Philip A. Brunell

Hypertension and the Lupus Syndrome
Washington University School of Medicine

Pseudocoarctation of the Aorta. An important Consideration in the Differential Diagnosis of Superior Mediastinal Mass
Tsung O. Cheng

Pediatrics Volume 46, Number 5, November 1970

Kidney Transplantation in Children
M. P. LaPlante, J.J. Kaufman, R. Goldman, H.C. Gonick, D. C. Martin, W.E. Goodwin

Hodgkin's Disease in the First Decade
S. Strum, H. Rappaport

Pediatrics (continued)

The Critically Ill Child: XIV. Disseminated Intravascular Coagulation
W. Hathaway

Soybean Sensitivity: Case Report
J. Mendoza, M. Meyers, R. Snyder

Treatment of Cyanide Poisoning in Children
C. Berlin Jr.

The Journal of Pediatrics Volume 77, Number 5, November 1970

Physician productivity and medical care
Drachman and Cooke

Hypoglycemia in neonata sepsis
Yeung

Hyperglycemia with hyperosmolar dehydration
Stevenson and Bowyer

Propylene glycol: Potentially toxic vehicle
Martin and Finberg

Boric acid poisoning simulating Ritter's disease
Rubenstein and Musher

Obstetrics and Gynecology Volume 36, Number 5, November 1970

Endometrial Hyperplasia in Young Women
Dikran Chamlian, H. Taylor

Application of the Obstetric Forceps
J. Mines

Cervical Cytology and Sequential Birth Control Pills
C. Dougherty

Central Venous Pressure in Supine Position During Normal Pregnancy -- Comparative determinations during first, second and third trimesters
R. Colditz, W. Josey

Views and Reviews: Hyperthyroidism During Pregnancy
L. Talbert, C. Thomas, W. Holt, P. Rankin

American Journal of Obstetrics and Gynecology Volume 108, Number5, November 1, 1970

Suppurative pelvic thrombophlebitis
C. Collins

Obstetric and gynecologic considerations of dwarfism
J. Tyson, A. Barnes, V. McKusick, C. Scott, G. Seegar

Renal hemodynamic effects of oxytocin in antepartal and postpartal women
R. Munsick, E. Gresham

Cardiovascular effects of oxytocic drugs used post partum
C. Hendricks, W. Brenner

Experience with induction of ovulation
S. MacLeon, D. Mitton, A. Parker, W. Tupper

Annals of Surgery Volume 172, Number 5, November 1970

Comparative evaluation of ligation and partial interruption of the femoral vein in the treatment of thromboembolic disease
J. Adams, J. DeWesse

Surgical treatment of choledochal cyst
M. Kasai, Y. Asakura, Y. Taira

Evaluation of a Method for Reconstruction of the Esophagogastric Junction and the application to Achalasia
T. Hirashima

Thickness, Cross-Sectional Areas and Depth of Invasion in the Prognosis of Cutaneous Melnoma
A. Breslow

Control of Infection after Thoracic and Cardiovascular Surgery
J. S. Carey

Surgery, Gynecology and Obstetrics Volume 131, Number 5, November 1970

Complications of Total Thyroidectomy for Carcinoma
Norman W. Thompson and Fay K. Harness

Surgical Management of Cutaneous Lye Burns
F. G. Wolfort, T. DeMeester, N. Dnorr, and M.T. Edgerton

Surgery, Gynecology and Obstetrics (continued)

Roentgenographic Evaluation of Traumatic Rupture of the Aorta
Marvin M. Kirsh, James D. Crane, Donald R. Kahn, Otto Gago, William Y. Moores, Helen Redman, Joseph F. Bookstein, and Herbert Sloan

Total Circulating Albumin Deficits Occurring with Extensive Surgical Procedures
Robert C. Hoye, David F. Paulson, and Alfred S. Ketcham

Appendix D

Sample Self-Assessment
Exam Questions, Answers
Annotations and References.

Sample Self-Assessment Questions

Journal (please type) New England Journal of Medicine
Article Title Artificial Cardiac Pacemakers
Senior Author: Lown
Publication Date 11-5-70

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
SG- The problems associated with transvenous insertion of cardiac pacemakers include: A. Higher post-op morbidity than with epicardial pacemakers B. Infection or phlebitis at site of venous entry C. Intraoperative myocardial infarction D. High rate of sepsis which is improved with the use of prophylactic antibiotics	B. Infection and phlebitis at site of venous entry are a major complication. Prophylactic antibiotics are not of value, and the occurrence of sepsis is rare. Post-op morbidity is much less than with epicardial insertion. Ref: Lown and Kosowsky NEJM 283, 1023, 1970 Harthorne et al Ann N.Y.Acad. Sci. 167, 1008, 1969
S-Cardiac pacemakers in common use have which characteristic concerning pacemaker failure: A. Pacers usually last more than 3 years B. Pacemaker failure presents usually as musculature contraction due to faulty circuitry C. Pacemaker malfunction is basically due to improper use by patients D. Pacer life expectancy does not usually exceed 3 years E. A complete pacemaker history is of little value in diagnosis	D. Pacemaker life expectancy does not usually exceed 3 years and malfunction is due to component failure of changes within the heart. Pacer history greatly facilitates diagnosis of malfunction. Ref: Lown and Kosowsky NEJM 283, 1023, 1970
-Intermittent pacing of a cardiac pacer will usually not be associated which of the following: A. Presentation as an irregular heart rate without symptoms B. Present with symptoms of asystole C. Displacement of electrode and perforation of ventricular muscle D. A partially fractured electrode producing irregular pacing E. A stable low myocardial threshold for capture	E. All of the choices are associated with intermittent pacing except E. Intermittent pacing frequently results from a changing myocardial threshold. During the immediate post-transplant period there may be an increase of ten times the threshold thereby exceeding the power output of the pacer. Ref: Lown and Kosowsky NEJM 283, 1023, 1970

Sample Self-Assessment Questions

Journal (please type) New England Journal of Medicine

Article Title Reserpine in thyrotoxic crisis

Senior Author: Dillon

Publication Date 11-5-70

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
G- In thyrotoxic crisis, which of the following agents used alone will provide initial effective therapy: A. Atropine B. Reserpine C. Thorazine D. Morphine E. Aminophyllin	B. The use of large parenteral doses of reserpine, either alone or in conjunction with other usual modes of therapy has been found highly effective in seven patients with thyrotoxic crisis. Hyperthermia, tachycardia and psychotic aberrations improve within 4-8 hrs. following a dose of 1-5 mg. intramuscularly and .07-.3 mg per kg of body weight in the first 24 hrs. Ref: Dillon et al NEJM 283,1020, 1970 Canary et al NEJM 257, 435, 1957
G- In the treatment of thyrotoxic crisis with parenteral reserpine, a reduction in hyperthermia and tachycardia readily occurs. Which undesirable side effect might be expected: A. Cardiac failure B. Hypotension C. Diarrhea D. Depression E. G.I. bleeding	C. In seven patients treated with reserpine, diarrhea occurred in two patients, but cardiac failure, depression, hypotension and G.I. bleeding was not observed. Others have reported the development of a carcinoid syndrome following reserpine treatment of thyrotoxicosis. Ref: Dillon et al NEJM 283, 1020, 1970 Blumenthal et al Arch. Int. Med. 116. 819, 1965
S- In the treatment of thyrotoxic crisis with parenteral reserpine, a partial explanation of the beneficial effects bserved appears to be: . Ganglionic blockade B. Depletion of peripheralcatecholamine stores . Rapid reduction of free fatty acids D. Rapid improvement of body temperature . Increased parasympathetic discharge	B. Reserpine and guanethidine, the most commonly used adrenergic agents in thyrotoxicosis deplete peripheral catecholamine stores. The damping of accelerated metabolic activity following its administration suggests that this depletion is important in achieving the principal effects of reserpine. Ref: Dillon et al NEJM 283, 1020, 1970 Shore, Pharm. Rev. 14, 531, 1962

Sample Self-Assessment Questions

Journal (please type) New England Journal of Medicine

Article Title Psychiatric Complications of Open-Heart Surgery

Senior Author: Heller

Publication Date 11-5-70

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
G- In patients experiencing a syndrome of post-cardiotomy delerium, the most important operative factor related to a decline in this syndrome since 1965 would be: A. Use of hypothermia B. Use of newer drugs C. Shorter duration of time in the recovery room D. Improved prosthetic valves E. Length of time on cardiac bypass	E. Although many factors contribute to the likelihood of developing delerium, it has been shown that the reduction in bypass time is probably the most important single factor responsible for the diminished prevalence of delerium. Ref: Heller et al NEJM 283, 1015, 1970 Egerton and Kay, Brit. J. Psyc. 110, 433, 1964
S Preoperative factors likely to predispose to the development of post-operative delerium include: A. Sex of patient B. Use of tranquilizers pre-op. C. Age of patient . Days in hospital before surgery . Abnormal psychiatric evaluation before surgery	C. Of these factors, the age of the patients appears to be the only one with a positive association with development of post-cardiotomy delerium. The mean age of patients developing delerium is significantly greater than the age of patients who do not develop this syndrome. Ref: Heller et al NEJM 283, 1015, 1970
S- The development of an organic brain syndrome following open-heart surgery is most likely related to: . Use of a disk oxygenator during op B. Length of time on cardiac bypass C. Sex . Structure of open-heart recovery room E. Replacement of mitral valve	A. The use of a disk oxygenator has been shown to be significantly associated with the development of an early post-op organic brain syndrome. The other factors do not appear to have any definite correlation with the development of this syndrome. Ref: Heller et al NEJM 283, 1015, 1970

Sample Self-Assessment Questions

Journal (please type) New England Journal of Medicine

Article Title Home Transfusion for Patients with Hemophilia A

Senior Author: Rabiner

Publication Date 11-5-70

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
SG The major complication arising from attempts to set up a home transfusion service by family members for administration of cryoprecipitate to patients with hemophilia might include: A. Anaphylaxsis B. Mild allergic reactions such as hives C. Severe infections due to lack of a aseptic technique D. Use of excessive quantities of cryoprecipitate E. Delay in treatment of minor hemorrhages	B. In a report of such a program in which relatives of hemophiliac patients were trained to administer transfusions, 18 months experience disclosed that the only complication was mild allergic reactions. Ref: Rabiner et al NEJM 283, 1011, 1970
S · The most frequent need for transfusion in adult hemophiliacs is: A. Joint Hemorrhage B. Soft tissue hemorrhage C. G. I. hemorrhage D. Prophylaxsis before tooth extraction . Nose bleeds	A. Joint hemorrhage is by far the most common bleeding problem in adult hemophiliacs and represents the highest consumption of cryoprecipitate by adult hemophiliacs in a home transfusion program. Ref: Rabiner et al 283, 1011, 1970
SG- An immediate gain of a home transusion program for adult hemophilia atients might be: A. Prevention of a crippling arthropathy . Decrease in number of days absent from school or work due to bleeding C. Decrease in amount of cryoprecipitate consumed D. Decrease in amount of analgesics consumed . Decrease in number of hemorrhages	B. A report of an 18 month home transfusion service showed that the number of days lost from work or school was significantly reduced among patients receiving transfusions at home but there was no significant change in other parameters, except for an increase in consumption of cryoprecipitate among patients receiving home transfusion. Ref: et al NEJM 283, 1011, 1970

Sample Self-Assessment Questions

Journal (please type) New England Journal of Medicine

Article Title Necrotizing angiitis associated with drug abuse

Senior Author: Citron Publication Date 11-5-70

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
SG - The parenteral injection of which of the following drugs is most likely to be associated with a syndrome of necrotizing angiitis in drug abusers: A. Marijuana B. Ritalin C. Methamphetamine D. Methadone E. Coccaine	C. In fourteen young drug abusers with necrotizing angiitis, all but two had used parenteral methamphetamine. This was used alone or in combination with heroin or d-lysergic acid. Ref: Citron et al NEJM 283, 1003, 1970 Zeek NEJM 248, 764, 1953
S - In a syndrome of necrotizing angiitis associated with parenteral drug abuse the diseased blood vessals most resemble the classic picture of: A. Hypersensitivity angiitis B. Periarteritis nodosa C. Penicillin allergy D. Serum sickness vasculitis E. Vasculitis associated with lupus erythematosis	B. The necrotizing angiitis associated with drug abuse is remarkably similar to periartitis nodosa with severe renal, cardiac, neurologic and gastrointestinal involvement. The histologic picture did not resemble hypersensitivity angiitis in which small arteries, venules and capillaries are involved. Ref: Citron et al NEJM 283, 1003, 1970 Zeek 248, 764, 1953
SG - In necrotizing angiitis associated with drug abuse, the most useful historical information or procedure in making the diagnosis would be: A. History of hypertension B. History of asthma C. Renal and visceral angiography D. Careful opthalmoscopic exam.	D. The most crucial test in making the diagnosis is angiography. No patient had a history of asthma or noteworthy allergy. Hypertension and hemolytic anemia developed in only an isolated patient. Ref: Citron et al NEJM 283, 1003, 1970

Sample Self-Assessment Questions

Journal (please type) American Family Physician/GP

Article Title Ankylosing Spondylitis

Senior Author: Drs. Calabro, Maltz and Sussman

Publication Date 11/70

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
"C 1. A 30 year old man presents in your office with an intermittent low back pain of several years duration. Which of the following would be the most helpful in your physical evaluation? A) A full history and physical evaluation including careful examination of the back. B) Contacting his previous physician to determine whether this man was just a chronic complainer. C) Careful attention to past history to determine whether he had had multiple back injuries in schoolboy sports. D) A positive family history of arthritis.	1. A This disease occurs most frequently in young men between 15 and 35 years of age and has characteristic symptoms. One can frequently make the diagnosis from the history and by performing a number of clinical tests.
'G 2. Which of the following laboratory tests would be most helpful in diagnosing AS? A) An SMA - 12 profile. B) Erythrocyte sedimentation rate. C) A blood test for rheumatoid factor. D) An anti-streptolysin titre.	2. B The erythrocyte sedimentation rate is elevated in a majority of patients with active disease but is normal in 20%. Rheumatoid factor is rarely present.
'G 3. Which of the following clinical signs would be most helpful in diagnosing AS? A) Straight leg raising. B) A Schober test. C) Patrick's sign. D) Brudzinski test.	3. B This test is positive in early lumbar involvement. Straight leg raising and Brudzinski tests are usually normal. Patrick's sign is indicative of disease usually in the sacroiliac joints and is therefore not too helpful.
"C 4. The drug of choice for a patient with early mild AS would be: A) Phenylbutazone. B) Indomethacin. C) Aspirin. D) Cortisone.	4. C Aspirin is the drug of choice-prescribed in daily amount of 4-6 grams. Indomethacin and Phenylbutazone are also very effective but should not be used as a first line drug because of their side-effects. Adrenocorticosteroids are still in use but should

Sample Self-Assessment Questions

Journal (please type) American Family Physician/GP

Article Title Practical Therapeutics: Diagnosis and Management of Flu

Senior Author: Dr. Mary M. Carruthers

Publication Date 11/70

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
"C 1. Secondary bacterial pneumonia is the most frequent pulmonary complication of flu. Which of the following organisms is most often responsible? A) Staphylococcous aureus. B) Diplococcous pneumoniae. C) Hemophilus influenzae.	1. B Diplococcous pneumoniae - although Staphylococcous aureus is found in about 25% of the cases and Hemophilus influenzae is only occasionally the casual agent in patients with chronic lung disease.
"G" 2. Pneumonia may occur synchronously with other symptoms of flu. This is seen primarily in what group of patients? A) Patients with Rheumatic Heart Disease. B) Patients with Chronic Obstructive Lung Disease. C) Patients who are prone to status asthmaticus.	2. A Patients with Rheumatic Heart Disease - particularly Mitral Stenosis.
'G" 3. Which one of the following is recommended by the U.S. Public Health Service? A) Intradermal administration of Influenza Vaccine. B) Anti-viral chemotherapy with Amantadine. C) Two doses of vaccine administered subcutaneously 6-8 weeks apart.	3. C This has been proven the most efficacious and yet the duration of immunity is only six months. However, the level of immunity is higher than with intradermal vaccine. Amantadine is still in the investigational stage.

Sample Self-Assessment Questions

Journal (please type) American Family Physician/GP

Article Title Management of Respiratory Failure

Senior Author: Dr. John A. Kibelstis Publication Date 11/70

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
SG 1. A 65 year old chronic lunger is admitted to the Coronary Care Unit because of an Acute Myocardial Infarction. He is given Morphia for his chest pain, oxygen for his anoxia, Seconal for sleep and Phenobarbital 4id for apprehension. On the third day he was found to have a $PaCO_2$ of 60 mm.Hg and a PaO_2 of 50. Which of the following would be most appropriate in his management? A) Increase his oxygen intake by mask. B) Discontinue both the daytime and bedtime sedation. C) Give him intermittent positive pressure breathing (IPPB) with oxygen. D) Put him on a bronchodilator.	1. B Overuse of sedation is a frequent cause of respiratory failure in the hospital. Not only should his barbiturates be discontinued but also the Morphine. In addition, the overuse of oxygen and intermittent positive pressure breathing can be factors in respiratory failure in a previously compensated patient with chronic obstructive lung disease.
SG 2. You are caring for a patient in the ICU who has an endotracheal tube. In the same room with your patient is a surgical patient who has just been brought back from the operating room with a ruptured gangrenous appendicitis. What is the best plan for managing your patient? A) Insist that the surgical patient be moved out of the room. B) Insist that strict sterile technique in the pulmonary toilet be adhered to. C) Put your patient on prophylactic antibiotics. D) Have a tracheostomy performed on your patient.	2. B Sterile technique must be observed when endotracheal suction is being used and in addition the ventilator delivery tubing must be changed at least once daily. While exposure of your patient to an infected surgical patient is not desirable it is not imperative that he be moved out of the ICU.

Sample Self-Assessment Questions

Journal (please type) American Family Physician/GP

Article Title Management of Respiratory Failure

Senior Author: Dr. John A. Kibelstis

Publication Date 11/70

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
3. In a narcotized apneic patient requiring immediate intubation and controlled ventilation which of the following pieces of apparatus would be most appropriate? A) A pressure-cycled ventilator. B) An Emerson respirator. C) A volume-cycled respirator. D) A self inflating hand resuscitator.	3. C A pressure-cycled ventilator is far less desirable because tidal volume and oxygen concentration vary considerably with the level of air way resistance. An Emerson respirator and a hand resuscitator would be of no value whatsoever.

Sample Self-Assessment Questions

Journal (please type) American Family Physician/GP

Article Title Care of Common Foot Problems

Senior Author: Dr. René Cailliet Publication Date 11/70

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
1. "G" Fitting of shoes is ideally done under which one of the following conditions? A) Early in the morning before the foot has a chance to swell. B) At the end of the day. C) It really doesn't make any difference.	1. B At the end of the day - when standing and walking have slightly broadened the foot and lengthened the longitudinal arch.
2. "G" Heel spurs are most commonly caused by one of the following conditions. A) Walking with a foreign body such as a stone or a raised area in the heel of the shoe. B) Excessive walking on cement floors. C) The direct result of shoe pressure aggravated by marked weight gain and excessive walking after prolonged recumbency.	2. C There is no data to indicate that a foreign body will cause any condition except a local skin irritation.
3. "[illegible]" The condition known as Hallus Rigidus is caused by one of the following conditions. A) Gout. B) Osteoarthritis. C) Rheumatoid arthritis. D) A sesamoid bone overlying the joint.	3. B Gout and rheumatoid arthritis may be a cause of pain in the great toe joint but it is degenerative arthritis which causes the symptom. Sesamoid bones are frequently seen by x-ray and rarely cause symptoms.
4. "[illegible]" Pronation and Pes Planus is a common problem in children. This is best treated by which of the following? A) Metatarsal pads. B) A metatarsal bar. C) A Thomas heel with a medial heel wedge.	4. C A Thomas heel will supinate the foot and cause slight inversion and the added wedge **medially** shifts weight bearing to the outer aspect of the foot.

Sample Self-Assessment Questions

Journal (please type) American Family Physician/GP

Article Title The Peripheral Blood in Malignancy

Senior Author: O'Neill Barrett, Jr., Col., USA, MC Publication Date

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
"G" 1. Which of the following changes in the peripheral blood is not suggestive for malignancy? A) The presence of nucleated red blood cells. B) Increase in target cells. C) Moderate decrease in total platelet count. D) The occurrence of schistocytes.	1. C Actually, there is frequently an apparent increase in the platelet count (thrombocytosis) in patients with malignant disease.
"G" 2. "Helmet cells" are occasionally seen in the peripheral blood in all but one of the following conditions. A) Thrombotic Thrombocytopenic Purpura (TTP). B) Malignant Hypertension. C) Uremia. D) Myasthenia Gravis.	2. D In Myasthenia Gravis there is no hemolysis - as there is in the first three conditions.
"G" 3. The presence of nucleated red blood cells in peripheral blood is not a general finding in which one of the following conditions? A) The patient with massive acute hemorrhage. B) Hemolytic Anemia. C) Myelofibrosis. D) The normal adult.	3. D The presence of nucleated red blood cells in the peripheral blood reflects marked acceleration of normal erythropoiesis and one can readily find these cells in the first three conditions.

Sample Self-Assessment Questions

Journal (please type) Annals of Internal Medicine

Article Title Rubella Virus Vaccine - Recommendation of the Advisory Committee on Immunization Practices, U.S. Public Health Service

Senior Author:

Publication Date Nov., 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
(G,S) . Live, attenuated rubella virus vaccine should be administered to: A. Adolescent and adult women in a routine fashion. B. Pregnant women. C. Six month old infants. D. Boys and girls between 1 year old and puberty.	1. D - The vaccine should not be administered to women routinely because some of them may be pregnant and not know it. Administration of the vaccine to infants under one year of age should not be done because of possible interference from persisting maternal rubella antibody. Annals of Internal Medicine
(G,S) 2. All of the following statements about the rubella virus vaccine are correct except: A. 95% of susceptible vaccinees will develop antibodies. B. Use of the vaccine in children whose mothers are pregnant is contraindicated. C. It should not be used in patients with leukemia. D. A history of rubella illness is not reliable enough to exclude children from immunization.	2. B - Although vaccinees may shed small amounts of virus from the pharynx between the first and fourth weeks after inoculation, the probability of spreading the virus is actually very low. Annals of Internal Medicine
(G,S) 3. (T,F) The great efficacy of the rubella irus vaccines is not due to its ability to rovoke antibody levels in excess of those found after natural rubella infection.	3. True - Antibody titers to the rubella vaccine are actually lower than those observed after natural rubella infection. Annals of Internal Medicine

Sample Self-Assessment Questions

Journal (please type) Annals of Internal Medicine

Article Title Recent Advances in Immunization Against Viral Diseases

Senior Author: Stokes, Joseph

Publication Date Nov. 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
(S) . Life-long persistence of antibody in humans to attenuated vaccines have been demonstrated for all of the following except: A. Smallpox B. Measles C. Rubella D. Mumps	1. A - The appearance of persisting protective antibody in B,C, and D consistently follows administration of the appropriate attenuated vaccines. Stokes et al
(S,G) . (T,F) The measles attenuated vaccine has een of only modest benefit to mankind because of distribution problems.	2. False - In West Africa, where measles has a 25% mortality rate, it has been estimated that at least 600,000 to 700,000 children owe their lives to the attenuated vaccine. Stokes et al
(G,S) . (T,F) Utilization of mumps vaccine may prevent the childhood form of illness, leaving he child susceptible to the more severe ariety when he becomes an adult.	3. False - Recent evidence indicates that antibody to mumps attenuated vaccine maintains a permanent alert. Stokes et al

Sample Self-Assessment Questions

Journal (please type) Annals of Internal Medicine

Article Title Pentamidine Isethionate in the Treatment of Pneumocystis Carinii Pneumonia

Senior Author: Western, Karl A. Vol 73, No 5 Publication Date Nov., 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
SG 1. (T-F) It is known that Pneumocystis Carinii pneumonia may complicate neoplastic and immunologic disorders. However, the presence of P. carinii should be suspected whenever a pneumonia does not respond optimally to treatment even in the absence of a serious underlying disease.	1. False - Virtually every patient with documented P. carinii pneumonia reported by Western, et al suffered from some underlying disease such as acute lymphocytic leukemia, Hodgkin disease, thymic alymphoplasia, or had undergone organ transplantation. (Western et al)
SG . (T-F) Azotemia or abnormal liver function ests occurring after the onset of Pentamidine therapy for P. carinii pneumonia are signals for the permanent cessation of such treatment ecause of the high incidence of irreversible epatic or renal toxicity with this drug.	2. False - Manifestations of renal and hepatic toxicity occur commonly during Pentamidine therapy and may require temporary discontinuation of treatment. Reinstitution of Pentamidine injections, however, may well be justified when parameters of organ disfunction return to near normal and evidence of continuing P. carinii infection is present. (Western et al)
G . (T-F) Pentamidine is the most effective treatment for Pneumocystis carinii pneumonia, but histologic confirmation of the diagnosis biopsy, aspiration, respiratory material) should precede therapy because of the significant toxic reactions to the drug.	3. True - Pentamidine isethionate is the drug of choice for P. carinii pneumonia. In most patients receiving the recommended nine doses, P. carinii was eliminated from the lungs. (Western et al)

Sample Self-Assessment Questions

Journal (please type) Annals of Internal Medicine

Article Title Centrilobular Hepatic Necrosis and Acute Renal Failure in "Solvent Sniffers"

Senior Author: Baerg, Richard D.

Publication Date Nov., 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
(G,S) 1. Trichloroethylene induced hepatic damage differs from viral hepatitis in all of the following ways except: A. There is a history of "solvent sniffing". B. Onset of symptoms is rapid. C. Hepatitis-induced antigen is absent. D. Hepatic damage is more severe and lasts longer.	1. D - Hepatic injury due to trichloroethylene inhalation is unusual, mild, and transient in most cases. Baerg et al
(S) 2. All of the following are manifestations of acute trichloroethylene toxicity except: A. Depressed level of consciousness B. Cardiac arrhythmias C. Increased lacrimation D. Hepatic injury	2. C - Chronic intoxication in metal degreasers is more apt to produce increased lacrimation, reddening of the skin, insomnia in addition to tremors, giddiness and anxiety. Baerg et al
(G,S) 3. (T,F) "Glue sniffers" suffering from trichloroethylene toxicity should be treated with intravenous ethanol which promotes excretion of the toxic metabolites.	3. False - Hepatic damage in trichloroethylene toxicity is potentiated by ethanol. Baerg et al

Sample Self-Assessment Questions

Journal (please type) Annals of Internal Medicine

Article Title Pathophysiology and Therapy of the Shock of Myocardial Infarction

Senior Author: Haddy, Francis J.

Publication Date Nov., 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
(S,G) . A 45 year old man is admitted with findings consistent with an acute anterior myocardial infarction and cardiogenic shock. Which one f the following is not a reason to insert a entral venous catheter? A. For phlebotomy in case pulmonary edema develops. B. For insertion for intracardiac pacing electrodes. C. For rapid infusion of IV fluids. D. For rapid infusion of mercurial diuretics and aminophylline. E. For measurement of changes in intrathoracic pressure and ventilatory distress.	1. D - Rapid intravenous infusion of mercurials and aminophylline may result in life threatening arrhythmias. A,B,C &E are solid reasons for inserting the central venous catheter. Hurst & Logue, The Heart, McGraw-Hill, 1970 pp 1570-1572 Haddy et al
2. From experimental studies, which of the following pharmacologic agents is least likely to benefit the patient in cardiogenic shock? A. Isoproterenol B. Levarterenol C. Digitalis D. Dopamine E. Glucagon	2. A - Although isoproterenol provides an initial rise in cardiac output, accelerated deterioration is likely to develop. Greater myocardial oxygen utilization is not met by a sufficiently large increase in coronary flow. Haddy et al.

Sample Self-Assessment Questions

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
(S,G) 3. The following is a true statement regarding cardiogenic shock in man: A. The mortality of patients in cardiogenic shock after an acute myocardial infarction is about 50%. B. The introduction of coronary care units has reduced mortality of the patients with acute MI and pure "pump failure". C. Cardiac output is diminished and peripheral vasoconstriction is uniformly present. D. Transmural infarction and coronary thrombosis are found in the majority of patients dying in cardiogenic shock.	3. D - However, the role of coronary thrombosis in the pathogenesis of the infarct is presently a controversial topic. Haddy et al

Sample Self-Assessment Questions

Journal (please type) The American Journal of Medicine

Article Title Exercise-Induced S-T Segment Elevation

Senior Author: Dr. Nicholas J. Fortuin

Publication Date Oct., 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
The occurence of 1 mm flat or up-sloping S-T segment elevation during or shortly after exercise is most likely due to: a) The normal EKG changes which accompany sinus tachycardia. b) The onset of an acute myocardial infarction c) The manifistation of severe, but reversable myocardial ischemia. S (internist)	Answer: c S-T segment elevation associated with exercise is a sign of severe myocardial ischemia. These patients have an occluded or nearly occluded major coronary vessel by coronary angiography. They also have a high incidence of sudden death. Their EKG changes are reversable following cessation of exercise, and do not necessarily mean acute infarctions. Sinus tachycardia may produce S-T depression but not elevation in a person with a normal heart. Ref: Amer. J. of Med. 49:459:70

Journal (please type) The American Journal of Medicine

Article Title Exercise-Induced S-T Segment Elevation

Senior Author: Dr. Nicholas J. Fortuin

Publication Date Oct., 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
While performing a Masters two-step test, a 60-year old man had to stop because of chest pain. EKG one minute following exercise revealed S-T segment elevation in leads I, AVL, V_5 and V_6. These changes and the pain subsided over the subsequent 10 minutes. These findings are most consistent with:	Answer: b S-T elevation during or following exercise does not mean acute myocardial infarction if it subsides quickly. It is, however, an ominous finding because of the high incidence of sudden death and high grade of coronary obstruction near the origin of a coronary.
a) A poor prognosis because of the high incidence of sudden death.	Ref.: Amer. J. of Med. 49:459:70
b) A high-grade coronary obstruction near its origin.	
c) Both of the above, a and b.	
d) Neither a nor b.	
G	

Sample Self-Assessment Questions

Journal (please type) American Journal of Medicine

Article Title Hypertension and the Lupus Syndrome

Senior Author: Publication Date Oct., 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
Drugs which have been found to produce a lupus-like syndrome are: a) Hydralazine b) Procaine Amide c) Diphenylhydantoin d) Isoniazid e) All the above. G	Answer: e All the above drugs have been implicated in causing the drug-induced lupus-like syndrome. Ref.; Amer. J. of Med. 49:514:70

Assessment Questions

Journal (please type) The American Journal of Medicine

Article Title Hypertension and the Lupus Syndrome

Senior Author:

Publication Date Oct., 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
A fifty-year old white male was begun on hydralazine and methyldopa because of blood pressure readings of 180/130 on three separate occasions. One month later, when his pressure was under good control, he noted stiffness and pain in his joints, and a mild fever. Laboratory exam revealed hyperglobulinemia, a postive flourescent antibody test for antinuclear factors, and a positive lupus erythematosis preparation. The picture is most likely due to: a) Systemic lupus erythematosis. b) Hydralazine toxicity. c) Rheumatoid arthritis. d) Methyldopa toxicity. G	Answer: b The picture is consistent with hydralazine-induced lupus. This syndrome is most common in patients on hydralazine who are white, slow-acetylators, that is slow metabolizers of hydralazine, have the laboratory findings described, and do not have evidence of renal involvement. Ref.: Amer. J. of Med. 49:519:70

Sample Self-Assessment Questions

Journal (please type) The American Journal of Medicine

Article Title Hypertension and the Lupus Syndrome

Senior Author:

Publication Date Oct., 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
An elevated peripheral-vein renin in a patient with hypertension is most consistent with: a) An autonomous aldosterone-producing tumor. b) Unilateral renal artery stenosis. c) Essential hypertension. d) Malignant hypertension. e) None of the above. S (cardiologist)	Answer: d The only hypertensive condition in which a systemic increase in plasma renin is found consistently is malignant hypertension. The increase in renin activity is probably not responsible for the hypertensiom. but rather a consequence of it. Unilateral renal artery stenosis or other conditions with renovascular hypertension may have elevated renal vein renin, but have normal or even low peripheral-vein renin. Ref.: Amer. J. of Med. 49:519:70

Sample Self-Assessment Questions

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Publication Date Oct., 1970

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
Hydralazine-induced lupus-like syndrome is characterized by which of the following: a) Most common in rapid acetylators. b) Frequent renal involvement. c) More frequent in Negroes than Caucasians on hydralazine. d) None of the above. S (internist)	Answer: d Hydralazine-induced lupus-like syndrome is nearly always found in slow-acetylators, that is patients who detoxify hydralazine slowly by acetylation. Further, the syndrome is rarely seen in Negroes and rarely involves the kidneys. Once hydralazine is withdrawn, symptons related to the syndrome regress rapidly, but the antinuclear antibody titers may remain elevated for months. Ref.: Amer. J. of Med. 49:519:70

Sample Self-Assessment Questions

Journal (please type) American Journal of Medicine

Article Title Hypertension and the Lupus Syndrome

Senior Author: Publication Date Oct., 1970

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
The role of prostaglandin in normal human physiology is not yet clearly ellucidated. Possible roles would include: a) Serve an antihypertensive endocrine function. b) Act as a vehicle for sperm transport. c) Serve an antibacterial function for the prostate and urinary bladder. d) None of the above. S (internist)	Answer: a Prostaglandin, a fatty acid found in the medulla of the kidney causes vascular smooth muscle vasodilation and a fall in blood pressure. It may well play a role in the normal regulation of blood pressure by the kidney. Possibly it's absence or a deficiency may play a role in the genesis of hypertension. Ref.: Amer. J. of Med. 49:514:70

Sample Self-Assessment Questions

Journal (please type) The American Journal of Medicine

Article Title Pseudocoarctation of the Aorta

Senior Author: Dr. Tsung O. Cheng Publication Date Oct., 1970

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
A fifty-one year old male presented to a physician because of dysphagia and cough of 4 months duration. Chest X-ray revealed a superior mediastinal mass. Aortic catheterization and aortography revealed elongation and kinking of the aortic isthmus, aneurysmal dilitation of the proximal portion of descending aorta, and no pressure gradient along the aorta. Physical exam would most likely reveal: a) Radial-femoral pulse delay and subcostal arterial pulsations. b) Hypertensive changes in the eye grounds. c) A murmur heard best over the back, and no other abnormalities. S (cardiology)	Answer: c The presentation is most consistent with pseudocoarctation of the aorta, an anomaly which usually presents as a superior mediastinal mass and a murmur heard at the base of the heart and over the upper back. The murmur is thought to be due to turbulence caused by the elongated and kinked aorta. In the evaluation of superior mediastinal masses, it is important to recognize this benign syndrome, as it can closely mimic conditions with much more omnious prognoses. Ref: Amer. J. of Med. 49:459:70; Amer. J. of Cardiol. 24:548:69

Sample Self-Assessment Questions

Journal (please type) The American Journal of Medicine

Article Title Pseudocoarctation of the Aorta

Senior Author: Dr. Tsung Cheng
Publication Date Oct., 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
A fifty-one year old machine operator with vague complaints of dysphagia was noted on chest X-ray to have a superior mediastinal mass. The differential diagnostic considerations should include: a) Coarctation of the aorta. b) Pseudocoarctation of the aorta. c) Ectopic thyroid. d) All the above. G	Answer: d All the above conditions can present as a superior mediastinal mass. The post-stenotic dilation of coarctation can resemble a mass. This diagnosis can be made by physical exam usually. Pseudocoarctation of the aorta, a benign "buckling" of the aorta with no coarctation can present as a mass and may require aortography to verify its presence. Ectopic thyroid tissue can usually be diagnosed by thyroid scanning of the chest. Ref.: Amer. J. of Med. 49:551:70

Sample Self-Assessment Questions

Journal (please type) The American Journal of Medicine

Article Title Zoster, Reinfection or Activation of Latent Virus?

Senior Author: Dr. Laurence Miller

Publication Date Oct., 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
Which of the following viral diseases is known to be caused by the same virus as varicella: a) Herpes simplex b) Herpes zoster c) Rubella d) Rubeolla G	Answer: b Herpes Zoster and Varicella are known to be caused by the same virus. It is not certain whether Herpes zoster represents a reinfection or an activation of the virus, which has lain latent in the host. Epidemiologic data would suggest the latter. Ref.: Amer. J. of Med. 49:480:70

Sample Self-Assessment Questions

Journal (please type) The American Journal of Medicine

Article Title Zoster, Reinfection or Activation of Latent Virus?

Senior Author: Dr. Laurence Miller

Publication Date Oct., 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
Herpes Zoster and Varicella are known to be caused by the same virus. There are, however, epidemiologic differences between the two diseases, which include: a) Herpes zoster has no seasonal variations, while varicella incidence peaks in the winter. b) Patients with varicella have a high incidence of recent exposure to the virus, while patients with zoster have a low incidence of recent exposure. c) Patients with the highest attack rate of zoster are the least likely population to be exposed to patients with varicella. d) All of the above. G	Answer: d These epidemiologic facts lend support to the thesis that Herpes zoster is not reinfection with the virus, but rather is activation of the virus which has been latent in the host. Ref: Amer. J. of Med. 49:480:70

Sample Self-Assessment Questions

Journal (please type) The American Journal of Medicine

Article Title The Pacemaker Sound

Senior Author: Dr. Morton Korn

Publication Date Oct., 1970

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
A high-pitched, clicking presystolic sound is often heard after insertion of a transvenous pacemaker. The sound should warn the physician that: a) One of the wires within the catheter has broken. b) The catheter tip has perforated the right ventricle and prevented pacemaker capture or sensing. c) The catheter tip has penetrated the right ventricle but still probably captures and senses properly. S (cardiology)	Answer: c The presystolic click which is heard occasionally after transvenous pacer implantation probably represents catheter penetration of the right-ventricle wall, suffuciently far enough to produce intercostal muscle twitching, but not far enough to produce failure of the pacer to capture or sense. Ref: Amer. J. of Med. 49:451:70; Ann. Int. Med. 68:1320:68

Sample Self-Assessment Questions

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Article Title The Pacemaker Sound

Senior Author: Dr. Morton Korn

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
A seventy year old male was seen one year after implantation of a transvenous demand pacemaker. Auscultation revealed a high-pitched, presystolic click. The proper course of action for the physician should be: a) Arrange for early replacement of the battery pack. b) Obtain a PA and lateral chest X-ray to see if the catheter tip has changed location. c) Do nothing, for this sound has the characteristics of an ejection click. d) Do nothing, for this sound has the characteristics of a presystolic gallop. S (cardiology)	Answer: b The presystolic click has been described after transvenous pacer implantation. It is thought to be due to intercostal muscle twitching and represent partial penetration of the right-ventricle by the catheter tip. Because there is rarely loss of capture or sensing, repositioning of the catheter is not usually necessary. Chest X-rays may demonstrate a slight alteration in the position of the catheter tip. The presystolic sound is too high-pitched and distinct to be a presystolic gallop, occurs before the first heart sound, and therefore is not an ejection click. Ref: Amer. J. of Med. 49:451:70; Ann. Int. Med. 68:1320:68

Sample Self-Assessment Questions

Journal (please type) The American Journal of Medicine
Article Title Exercise-Induced S-T Segment Elevation
Senior Author: Dr. Nicholas J. Fortuin Publication Date Oct., 1970

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
In a patient whose EKG reveals S-T segment elevation during or shortly after exercise, coronary arterography is most likely to reveal: a) Diffuse coronary disease involving all major vessels. b) An occluded, or nearly occluded major vessel near its origin. c) Normal coronary angiograms. The disease is most likely small-vessel disease, not seen by arterography. S (cardiology)	Answer: b Nearly all patients who have S-T segment elevation with or following exercise have a lesion occluding or nearly occluding a major vessel near its origin. The other vessels may be either normal or diffusely involved. Ref: Amer. J. of Med. 49:459:70; Ann. Int. Med. 68:1320:68

Sample Self-Assessment Questions

Journal (please type) The American Journal of Medicine

Article Title Exercise-Induced S-T Segment Elevation

Senior Author: Dr. Nicholas J. Fortuin

Publication Date Oct., 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
The occurance of S-T segment elevation during or shortly after exercise is associated with: a) A good prognosis because the EKG changes signify a well-developed left-ventricular aneurysm. b) A poor prognosis because of the high incidence of sudden death. c) No significant alteration in the prognosis compared to other patients with coronary artery disease. SG	Answer: b An EKG change of S-T segment elevation during or following exercise is associated with a severe proximal coronary-artery occlusion and a high incidence of sudden death. Ref: Amer. J. of Med. 49:459:70

Sample Self-Assessment Questions

Journal (please type) Pediatrics

Article Title The Treatment of Cyanide Poisoning in Children

Senior Author: Cheston M. Berlin, Jr.   Publication Date Nov. 1970

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
SG 1. Proper management of cyanide poisoning includes which of the following: a. emesis with ipecac syrup b. amyl nitrite by inhalation c. intravenous treatment with 3% sodium nitrite. d. intravenous treatment with 25% sodium thiosulfate.	a,b,c,d.. This is the recommended course of therapy for the management of acute cyanide poisoning. Arena, Poisoning. Springfield, Ill, Charles C. Thomas, p.22, 1963.
SG 2. The widely published schedule for the treatment of cyanide poisoning by the nitrite thiosulfate method of Chen is potentially lethal for children under 25 kgm. in weight.	True. The use of the adult dose for nitrite has produced fatal methemoglobinemia in a child. The dose of $NaNO_3$ for children with a hemoglobin of 12 gm./100 ml. is 10 mgm/kgm. per body weight immediately and 5 mgm/kgm. repeated within 30 minutes if necessary. Berlin, Ped., 46:794, 1970. Chen, JAMA, 162:1154, 1956.
G 3. Successful treatment of accidental poisoning in children requires an accurate history because overtreatment can be as dangerous as the risk of poisoning itself.	True. In this case report, failure to accurately calculate the dose of ingested cyanide as 1/50 to 1/140 of the published lethal dose of cyanide lead to the administration of a lethal dose of $NaNO_2$. Similar experiences.such as the use of fluid extract of Ipecac as an emetic instead of Ipecac Syrup has also resulted in mortality. Overtreatment carries its own morbidity! Berlin, Ped., 46:774, 1970. Albert in Gellis and Kagan, Current Pediatric Therapy, Vol.5, 1971.

Sample Self-Assessment Questions

Journal (please type) Pediatrics

Article Title Soybean Sensitivity: Case Report

Senior Author: Josefina Mendoza Publication Date Nov. 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
G 1. Soybean is widely used as a substitute for cow's milk because cow's milk is a common source of allergic disorders	True, True, Related. Soybean is widely used and cow's milk is one of the commonest sources of allergic disorders in children. Glaser et. al., JAMA, 153:620, 1953.
SG 2. Soybean is a completely non-allergic product.	False. Soybean is capable of producing sensitivity reactions after repeat exposure to the product and although uncommon may be extremely severe. The widespread use of soybean formulas will result in an increase in these reactions. Mendoza, Ped., 16:774, 1970.
G 3. The prophylactic use of hypoallergenic formulas very likely lessens the incidence of major allergic disorders such as eczema and asthma.	True. Glaser has data that strongly suggests this finding. However, any prophylactic regimen may carry its own risks and rather than soybean and related substitutes, breast milk should be used whenever possible. Glaser, J., Ped., 29:835, 1962.

Sample Self-Assessment Questions

Journal (please type) Pediatrics

Article Title Hodgkin's Disease in the First Decade of Life

Senior Author: Stephen B. Strum

Publication Date Nov. 1970

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

	Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
G	1. Splenomegaly is the most common presenting symptom in Hodgkin's Disease in Children in the first decade of life.	False. Like adult Hodgkin's disease, asymptomatic lymph node involvement is the most common presenting sign. Strum, Ped., 46:748, 1970.
SG	2. Hodgkin's Disease in children is a disease predominantly of males usually over the age of 3.	True. In this series, as in others, over 90% of the reported cases are males. In addition, Hodgkins appears very rare in children under 3. Strum, Ped., 46:748, 1970.
SG	3. Histologic study of children with Hodgkin's disease shows a striking preponderance of mature lymphocytes. This suggests a. most could not be classified. b. a particular host response characteristic of the disease in children. c. a direct relationship with peripheral wbc. d. many Sternberg Reed cells. e. one pathologist.	b. The common histologic feature could represent a characteristic host response; most were classified. There was no relation to the peripheral wbc, and in fact Sternberg Reed cells were largely absent. E is always a possibility! There were 2 pathologists in this study. Strum, Ped., 46:748, 1970.

Sample Self-Assessment Questions

Journal (please type) Pediatrics

Article Title Care of the Critically Ill Child: The Problem of Disseminated Intravascular Coagulation

Senior Author: William E. Hathaway

Publication Date Nov. 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
G 1. Which of the following has disseminated intravascular coagulation been observed as an etiologic or complicating mechanism in; a. idiopathic respiratory distress syndrome. b. meningococcal septicemia. c. varicella. d. Rocky Mountain spotted fever. e. neuroblastoma.	a:all. The number of clinical conditions when DIC has been observed is large. Hathaway, Ped. 46:767, 1970.
SG 2. Multiple system (brain, heart, kidney, lung, and red cells) involvement in a seriously ill child should suggest disseminated intravascular coagulation even without purpuric skin lesions.	True. All of these symptoms may appear before the rash. Hathaway, Ped. 46:767, 1970.
SG 3. The laboratory diagnosis of DIC includes all but one of the following: a. abnormal prothrombin time. b. burred erythrocytes. c. Heinz bodies. d. lowered platelet count. e. lowered prothrombin time.	c. The minimum of laboratory findings needed to make a diagnosis include abnormalities of prothrombin, thrombin, and lowered platelet count. The burr cells are the basis for the hemolytic anemia. Hathaway, Ped. 46:767, 1970.
S 4. While heparinization does correct the abnormal clotting in severely ill patients in DIC, it does not significantly improve the mortality rate.	True. In addition to heparinization it is necessary to provide supportive care and support of the circulation with plasma blood, and isoproteronal may be lifesaving. Hathaway, Ped., 46:767, 1970. Corrigan et. al.. Combined Program and Abstracts, The American Pediatric Society and the Society for Pediatric Research, Atlantic City, p.74, 1970.

Sample Self-Assessment Questions

Journal (please type) Pediatrics

Article Title Kidney Transplantation in Children

Senior Author: Michael P. LaPlante

Publication Date Nov. 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
SG 1. All of the following statements except one are true. Which one is incorrect? a. Kidney transplants are more successful in living versus cadaver donor kidneys. b. Pyelonephritis is the commonest cause for terminal renal failure in children. c. Growth continues after successful transplantation. d. The complication rate in renal transplantation in children is high.	b. Chronic glomerulonephritis is the commonest cause of terminal renal failure in children. LaPlante et. al. Ped. 46:665, 1970
SG 2. Complications of renal transplantation that occur early include technical difficulties, immunological disorders, and secondary infection.	True. Most failures occur early and while distressing are capable of solution. Late complications include hypertension, diabetes, and drug toxicity. LaPlante et. al. Ped. 46:665, 1970
SG 3. Renal transplantation in children is now so encouraging in its results that large scale programs should be developed.	False. The procedure is much more difficult in children than adults. Progress will be made by concentrating programs in a few centers. LaPlante et. al. Ped. 46:665, 1970

Sample Self-Assessment Questions

Journal (please type) The Journal of Pediatrics

Article Title Hyperglycemia with hyperosmolal dehydration in nondiabetic infants

Senior Author: Roger E. Stevenson Publication Date Nov. 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
SG An 18 month old boy was admitted to the hospital with hypernatremic dehydration because of gastroenteritis of two days duration. He was also found to have a blood sugar of 416mg./100ml. without acetonemia, acetonuria, or glucosuria. On the basis of this data, the boy should be considered to have dibetes mellitus and thus begun on insulin therapy. TRUE or FALSE	Ans. FALSE. This child does not have diabetes mellitus but "suspected diabetes mellitus" according to the Committee on Professional Education of the American Diabetes Association. The other categories are: "overt diabetes" where there is fasting hyperglycemia in the absence of stress and a glucose tolerance test is not required and "chemical or latent diabetes where the fasting blood sugar is normal but an oral or intravenous glucose tolerance test in the absence of stress is in the diabetic range. In this case, the hyperglycemia was considered to have been caused by the stress situation and the blood glucose returned to normal limits with appropriate fluid therapy. One must be careful not to treat these children with insulin unless there is evidence that the blood sugar does not return to normal levels following fluid replacement. Ref. Hyperglycemia with hyperosmolal dehydration in non diabetic infants Journal of Pediatrics 77:818, 1970 Textbook of Pediatrics W.B. Saunders Philadelphia 1969 P 1155ff.

Sample Self-Assessment Questions

Journal (please type) The Journal of Pediatrics

Article Title Hyperglycemia with hyperosmolal in non diabetic infants

Senior Author: Roger E Stevenson Publication Date Nov. 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
SG An 18 month old was admitted to the hospital in a semi-comatose state. He was in a perfect state of health until two days prior to admission, when he developed fever and diarrhea. He refused to eat solid foods but drank and urinated greater amounts than usual. There was no previous history of polyuria or polydypsia. There was an inadequate family history because he was abandoned by his parents. On admission, his temperature was 104°F BP 95/55 respirations 24/min and he was thin, malnourished, and extremely dehydrated. Serum electrolyte Na 164, Cl 134, CO2 21.0, K5.3, blood sugar 416 mg/100 ml, BUN 97 hematocrit 34, WBC 13,700, Urine: Ph 5.0 S.G. 1026, Sugar none, acetone none Serum acetone-no increase. Besides treating him for hypernatremic dehydration, one should give him regular insulin IV for the diabetes. True or false	Ans False. This patient should not be treated with insulin and does not have diabetes. This case is one of three children who presented with gastroenteritis, dehydration and hyperosmolal hypernatremia with hyperglycemia. Prior to the onset of the acute illness all patients were perfectly well with no prior history of polyuria or polydypsia. In addition, all had hyperglycemia with blood sugars ranging from 365-600 mg/100 ml. None had acetonuria or acetonemia, and 1/3 had glycosuria. 2/3 were treated with small doses of insulin but at the time of treatment, the blood sugar had already fallen dramatically. One patient with a blood sugar of 517 mg/100 ml was treated with fluids alone and blood sugar returned to normal at the time of recovery from the dehydration. A glucose tolerance test on all patients was normal. The etiology of the hyperglycemia was not known but may have related to the stress situation. According to the Committee on Professional Education of the American Diabetic Association this state is called "suspected diabetes mellitus" probably caused by the acute infection and stress. Ref. Textbook of Pediatrics Nelson W.B. Saunders 1969 p1155ff Hyperglycemia with hyperosmolal dehydration in non diabetic infants J. of Ped. 77:818 1970

Sample Self-Assessment Questions

Journal (please type) The Journal of Pediatrics

Article Title Hypoglycemia in neonatal sepsis

Senior Author: C.Y. Yeung Publication Date Nov. 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
SG A neonate who has clinical sepsis should always have a blood sugar performed TRUE OR FALSE	Ans. TRUE In a series of neonates with sepsis, 20/59 had hypoglycemia. Of the 20 with hypoglycemia, 9 were asymptomatic. Ref. Hypoglycemia in neonatal sepsis J. of Ped. 77:812 1970
SG Hypoglycemia in the neonate is usually associated with: 1) Birth Trauma 2) Adrenal Insufficiency 3) Hemolytic Disease of the newborn 4) Infant of a diabetic mother 5) Neonatal Sepsis Ans: a) 1 and 3 B) 2 and 4 C) 1, 2, 3 and 4 D) All of the above	Ans: D) All of the above It is important to consider hypoglycemia when one has a neonate with clinical sepsis. In one report, 20 patients with sepsis had associated hypoglycemia, and 9 of these were asymptomatic. Ref. Hypoglycemia in Neonatal Sepsis Journal of Pediatrics 77:812 1970

Sample Self-Assessment Questions

Journal (please type) The Journal of Pediatrics

Article Title Propylene glycol: A potentially toxic vehicle in liquid dosage form

Senior Author: Gilbert Martin Publication DateNov. 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
SG A 15 month old boy was admitted to the hospital for an operation because of Wilm's tumor. He received Actinomycin D and radiotherapy. In addition, he received 250mg/day of Vitamin C in a suspension of propylene glycol (7.5 ml three times a day). Eight days after the Vitamin C administration he was noted to have a sinus arrythmia, tachypnea, tachycardia, and was unresponsive in bed. In addition he had an intense diaphoresis. The treatment of choice would be: a) glucose tolerance test b) discontinue Vitamin C in propylene glycol c) emergency EEG d) phenobarbital IV	ans. b) Propylene glycol has been used in preparing oral and injectible medications and can cause hypoglycemia. Besides its use as a vehicle for Vitamin C, it is also used to treat infants with vitamin D deficiency. (600,000 units of Vitamin D in a total volume of 60 ml. of propylene glycol given in one or divided doses in one day.) In the above case the patient was noted to be hypoglycemic and responded to 50% glucose IV. After the propylene glycol was discontinued, the patient was normoglycemic and a subsequent glucose tolerance test was normal. It has not been appreciated that propylene glycol is an alcohol and can produce a form of intoxication not too dissimilar to that resulting from an overdose of ethanol. Ref. Propylene glycol A potentially toxic Vehicle in liquid dosage form J. of Ped. 77:877 1970
SG Propylene glycol has been used as a vehicle for a variety of medicines including Vitamins C and D. In high doses taken orally it can cause: a) Petit mal seizures b) Degeneration of Betz cells c) Hypoglycemia d) utricaria	Ans. c) Hypoglycemia especially with large doses of propylene glycol. Propylene glycol is an alcohol and can produce a form of intoxication not too dissimilar to that resulting from an overdose of ethanol. Ref: Propylene glycol as a potentially toxic vehicle in liquid dosage form J. of Ped. 77:877, 1970

Sample Self-Assessment Questions

Journal (please type) Journal of Pediatrics

Article Title Epidemic boric acid poisoning simulating staphylococcal toxic epidermal necrolysis of the newborn infant: Ritter's Disease

Senior Author: A. Daniel Rubenstein Publication Date Nov. 1970

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
SG The following have (has) been a known etiological agent in epidemic toxic epidermal necrolysis of the newborn infant. a) Boric acid b) Phisohex c) Staphylococcus (Ritter's Disease) d) Herpes Zoster e) Erythema toxicum	Ans: a) c). Boric acid solution has been used to sterilize diapers. In one nursery a 3% solution of Boric acid was substituted for distilled water in formula preparation and was responsible for three deaths, producing a disease similar to Ritter's Disease. Epidemic boric acid poisoning simulating staphylococcal toxic epidermal necrolysis of the newborn infant: Ritter's Disease J. of Ped. 77:884, 1970
SG True or false Boric acid poisoning in the newborn infant presents like and is almost indistinguishable from staphylococcal toxic epidermal necrolysis (Ritter's Disease)	True Boric acid solution has been used in the nursery to sterilize diapers. In one nursery 3% solution of boric acid was substituted for distilled water in formula preparation and was responsible for three deaths, producing a disease similar to Ritter's Disease. Epidermal boric acid poisoning simulating staphylococcal toxic epidermal necrolysis of the newborn infant: Ritter's Disease. J. of Ped. 77:884, 1970

Sample Self-Assessment Questions

Journal (please type) The Journal of Pediatrics

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
SG There was an outbreak of a disease in the newborn nursery characterized by fussiness, refusal to eat, vomiting, diarrhea, exfoliative dermatitis and death. Three out of four infants died. The four infants were born within four days of one another. In two, coagulase positive staphylococcus aureus, phage type 7, was isolated from the nose, throat, and faeces. This organism had not been isolated in routine hospital cultures or in cultures of pathological specimens for several months before the outbreak. In addition, no recent staphylococcal infection had been observed in the patients' families or in the community. The cause of the outbreak was most probably: a) Staphylococcal epidermal Necrolysis (Ritter's Disease) b) Boric acid poisoning c) Nitrite poisoning d) Streptococcus Group B outbreak	Ans. b) Boric acid solution, which is used to sterilize diapers, is known to cause toxic epidermal necrolysis. Other causes include staphylococcal disease, such drugs as penicillin, sulfonamides, hydantoins. Leiner's Disease which may present in a similar fashion, seems to be a generalized form of seborrheic dermatitis. This disease is extremely rare and usually presents between 2-4 months of age. It is important to differentiate Ritter's Disease from boric acid poisoning. Usually the staphylococcus in Ritter's Disease appears somewhere else in the hospital before the fullblown case in the nursery, and other members of the family usually harbor the particular staphylococcus strain. Only because of the absence of this feature did the authors of the report investigate other possible etiologies to the epidemic epidermal necrolysis and found it to be boric acid poisoning in which a solution of 3% boric acid was substituted for distilled water in the formula preparation. Ref. Epidemic boric acid poisoning simulating staphylococcal epidermal necrolysis of the newborn infant: Ritter's Disease. J. of Ped. 77:884, 1970 Toxic Epidermal Necrolysis (Lyell) the Scalded Skin syndrome. Amer. J. Med. 37:140, 1964 Textbook of Dermatology Rook and Wilkinson F.A. Davis Co Phil 1968 pp 123, 133, 1192.

Sample Self-Assessment Questions

Journal (please type) The Journal of Pediatrics

Article Title Physician Productivity and Medical Care

Senior Author: Robert H. Drachman Publication Date Nov. 1970

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
SG After careful study, it has been shown that a pediatricians time may be saved by what percentage by an assistant carrying out tasks formerly performed by the pediatrician A) 10% B) 30% C) 50%	Ans. C) Pediatric practice in the United States with special attention to the utilization of allied health workers services Yankauer et al. Pediatrics 45:521, 1970. It is interesting to note that in one study (Bergman et al Time Motion study of practicing pediatricians Pediatrics 38:254. 1966) only 46% of a practicing pediatricians time was spent with office patients.
G Many workers in the field of health care organization and delivery recogize that this country is in a state of "health crisis". Because of increased demand for health services, mportant considerations must be given n the future to help solve this health crises to) National health insurance B) Guaranteed minimum income C) Increase in the number of specialists) Increase overall health care productivity in a more efficient and effective manner by increase in the number of allied health workers to do many tasks that physicians are doing now.	Ans. D). A)and B) provide the purchasing power for people who cannot afford health care, but unfortunately, even if one has the ability to pay for health services, they are often times not available and accessible. Increasing the number of specialists only magnifies the unavailability of family practitioners, or generalists in pediatrics and internal medicine. New approaches to increasing the productivity of medical care by using allied health workers has been shown to be successful in many areas and needs to be fully evaluated. (Ref. Physician Productivity and Medical Care, Drachman and Cooke Jof Pediatrics 77:749.1970

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Journal (please type) Cervical Cytology and sequential Birth Control Pills

Article Title Obstetrics and Gynecology

Senior Author: Dougherty, Cary. M. Publication Date Nov. 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
S+G 1) Prolonging the exposure time of a patient to the birth control pill increases the risk of developing abnormal cervical cytology smears. True or False: Answer: FALSE	Prolonged exposure to the pill does not increase the risk. Since rate of occurrence is a straight line level function of length of treatment. This was borne out by rulings of F. D. A. when restrictions were removed on the length of time a patient could take the birth control pill.
S+G 2) The use of sequential birth control pill results in increased numbers of breast can cer. This explains why one leading brand is no longer available. True or False: Answer: FALSE	There is no evidence to show that the pill causes cancer of breast or cervix. There was an increased pregnancy rate with the sequential type as compared to the combined pill. It has nothing to do with continued unopposed estrogen the sequential pill.
S+G 3) Use of the pill has in fact been shown to reduce the incidence of cancer of the cervix by improving the health of the cervical epithelium. True or False: Answer: FALSE	The pills do not protect against cancer
S 4) Cytologic Atypical and positive smears are found about twice as frequently in the pill patient population as in roughly comparable untreated women	According to Dougherty, C. (Cervical Cytology and Sequential Birth Control Pills V. 36 No. 5. Nov. 1970) His patients from New Orleans, predominently black and from lowest social economic stratum

continued/...........

Sample Self-Assessment Questions

Page 2. Sect. A.

Journal (please type) OBSTETRICS AND GYNECOLOGY

Article Title Cervical Cytology and Sequential Birth Control Pills

Senior Author: Dougherty, Cary M.

Publication Date Nov. 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
continuation/.. 4) True or False Answer: TRUE	would be expected to have increased frequency of coitus and increased vaginitis which would be expected to increase abnormal cytology. REF: Watt. L. and Jennison R. F. Incidence of Trichomonas Vaginalis in Marital Partners. Br. J. Vener Dis 36: 163-166 1960 Rawls, W. E., Tompkins, A. F., Figueroa M. E. and Melnick J. L., Herpesvirus Type 2 Association with Carcinoma of the Cervix Science 161: 1255- Sept 1968 Koss, L. G. and Wolinska W. H. Trichomonas Vaginalis Cervicitis and its relationship to cervical cancer. Cancer 12: 1171 - Nov. Dec. 1959

Sample Self-Assessment Questions

Page 1 Sect. B.

Journal (please type) OBSTETRICS & GYNECOLOGY

Article Title Application of the Obstetric Forceps

Senior Author: Mines, Julian Lansing

Publication Date Nov. 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
S. 1) The full term fetus in utero exists in such equlibrium that the maternal venous blood contains the same 02 saturation as does the fetal arterial blood. True or False: Answer: FALSE	Actually the full term fetus exists in a state of cyanosis, comparable to that found in a patient on top of Mount Everest. Eastman has described the state as "Mount Everest in Utero". This cyanosis exists with a degree of blood oxygen unsaturation twice that necessary to cause visible cyanosis. During a contraction fetal arterial blood contains less oxygen than does venous blood. REF: Munro D. Cranio - Cerebral Injury in New Born. Oxford Medicine Vo. 6 New York, Oxford University Press 1949-6-136
G&S 2) In using obstetrical forceps the degree of cranial compression created is proportionate to the force of traction employed True or False: Answer: TRUE	More fetal embarrassment results from excessive compression of the vertex than from any other effect produced by the use of forceps.
G. 3) To safeguard the baby and to protect the maternal soft parts the operator should brace his feet against the table so that he will not slip and possibly harm his patients during the delivery True or False: Answer: FALSE	One should never brace his feet. If this much force is required the forceps operation is not indicated and will probably damage mother and baby

Sample Self-Assessment Questions

Page 2
Sect. B

Journal (please type) OBSTETRICS & GYNECOLOGY

Article Title Application of the Obstetric Forceps

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Publication Date Nov. 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
S+G 4) Abuse of Obstetrical Forceps may cause distortion and angulation of the cerebral veins great enough to impair the venous drainage of a portion of the brain.	Increased venous pressure in cerebrum causes intra cranial pressure to rise further thus creating a vicious cycle
These events may cause: True or False: (a) Increase in cerebral venous pressure TRUE	Cortical and subcortical thromboses and hemorrhage may well follow. Forceps are capable of great potential damage if injudiciously used.
(b) Cerebral venous pressure increase causes Intracranial pressure to fall. FALSE	REF: Holland E. Cranial stress in foetus during labour and effects of excessive stress on intracranial contents. T. Obstet. Gynaec. /Brit. Comm. 29: 549-571 1922
(c) Brain damage may result from the vascular congestion and its sequelae. TRUE	

Sample Self-Assessment Questions

Page 1
Section C.

Journal (please type) OBSTETRICS & GYNECOLOGY

Article Title Hyperthyroidism During Pregnancy

Senior Author: Talbert, L. M., Thomas C. G., Holt, W. A. Rankin P. Publication Date 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
G. 1) Thyrotoxicosis in the pregnant patient can be safely treated with radio-active Iodine since this drug does not cross the placenta True or False: Answer: FALSE	Radioactive Iodine crosses the placenta and is contraindicated during pregnancy. The fetal thyroid takes up radioactive Iodine after 12 weeks of gestation.
S+G 2) In treating Hyperthyroidism during pregnancy, a cardinal principle is to treat the mother and ignore the fetus since the maternal thyroid acts as a pacemaker for fetal thyroid hormones. True or False: Answer: FALSE	Maintenance of maternal euthyroidism by either exogenous or endogenous thyroid hormone may not provide sufficient thyroid hormones to the fetus to assure optimal development, if fetal thyroid is compromised by drugs therapy. REF: Hyperthyroidism during pregnancy Talbert et all OBST & Gynec V. 36 #5. November 1970
S+G 3) Treatment of pregnant patient with thiourocil drugs has resulted in fewer cretins and others with fetal damage than the patient treated with subtotal thyrotdectomy after brief preparation with anti-thyroid drug. True or False: Answer: FALSE	Retardation or cretinism in surgically treated patients is extremely rare in contrast to the many reports of permanent damage in the fetus treated with thiouracil drugs over a prolonged period of time. REF: Herbst A. L., Selenkow, A. Hyperthyroidism during pregnancy New. Eng. J. Med. 273:627 1965

Sample Self-Assessment Questions

Journal (please type) OBSTETRICS & GYNECOLOGY

Article Title HYPERTHYROIDISM DURING PREGNANCY

Senior Author: Talbert, Thomas, Holt and Rankin

Publication Date 1970

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
S. 4) There is a marked decrease in thyroid binding globulin in pregnancy, which is due to increasing progesterone levels True or False Answer: FALSE	Thyroid Binding Globulin increases in the pregnant patient most likely from a rise in estrogen production. REF: Man et Al Thyroid function in human pregnancy Amer. J. Obstet. Gynec 103:338 1969

Sample Self-Assessment Questions

Page 1 Sect. D

Journal (please type) OBSTETRICS & GYNECOLOGY

Article Title Endometrical Hyperplasia in young women

Senior Author: Chamlian D., and Taylor H. B. Publication Date 1970

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
S+G 1) A 24 year old female has a long history of amenorhea interspersed with bouts of profuse uterine bleeding The most appropriate initial treatment is:- (a) treat her with Birth Control pills to regulate her cycles (b) give her corticosteroid therapy to check her adrenal glands (c) D. & C. (d) give progesterone injections which will cause a medical curettage. Answer: (c)	(c) Perform D & C or Endometrial Biopsy to establish a diagnosis. If the patient shows adenomatous hyperplasia there is a greater incidence of adenocarcinoma of the endometrium. In the paper by Chamlian and Taylor Obst& Gynec V. 36 #5. Nov. 1970 14% of their patients developed adenocarcinoma of the endometrium up to 14 years after initial diagnosis was made.
S. 2) The younger infertile female who has associated findings of adenomatous hyperplasia of endometrium is most likely to conceive. (a) shortly after the initial D&C (b) after a short cause of estrogen priming and progesterone cycling.	(d) The overall results in patients with adenomatous hyperplasia is discouraging. In Chamlian's study only 27% conceived after diagnosis of Endometrial hyperplasia was made there were only 21% of the patients who carried to term.

Sample Self-Assessment Questions Page 2. Sect. D.

Journal (please type) OBSTETRICS & GYNECOLOGY

Article Title Endometrical Hyperplasia in young women

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
continuation:..	
2) (c) after a short course of non sequential birth control pills	Ovulation Induction appears to offer the best results: 50% of the patients conceived and none has developed adenocarcinoma to date.
(d) after induction of ovulation with clomiphene or wedge resection	
Answer: (d)	
S 3) Young women with cystic (Swiss cheese endometrium) have the following:	(d) Cystic hyperplasia is a benign condition as contrasted with atypical or adenomatous hyperplasia which runs a gamut of events leading from anovulation to endometrical hyperplasia or carcinoma
(a) an elevated 17 Keto-Steriod level	
(b) Sclerocystic ovaries in a high percentage of cases	
(c) a considerable risk of developing carcinoma of the endometrium	
(d) None of the above	
Answer: (d)	

Sample Self-Assessment Questions

Page 3. Sect. D.

Journal (please type) OBSTETRICS & GYNECOLOGY

Article Title Endometrical Hyperplasia in young women

Senior Author: Chamlian D. and Taylor H. B. Publication Date 1070

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
S. 4) The diabetic obese young woman with adenomatous hyperplasia can avoid problems of infertility and future development of adenocarcinoma by controlling diabetes and obesity True or False Answer: FALSE	Neigher treating the hirsuitism nor controlling the diabetes and obesity has much influence on infertility or future carcinoma development. The best treatment is to induce ovulation.

Journal (please type) ______

Article Title CENTRAL VENOUS PRESSURE IN SUPINE POSITION DURING NORMAL PREGNANCY

Senior Author: Colditz, R. B., & Josey W. E. Publication Date ______

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
S+G 1) During Pregnancy the following physiologic changes occur:	
True or False:	
(a) There is decreased pressure on inferior Vena Cava	(a) There is increased pressure because of weight of the uterus and its contents
FALSE:	
(b) There is increased Cardiac output	(b) There is decreased cardiac output
FALSE.	
S 2) During Pregnancy the following changes occur:	
True or False:	
(a) There is an increase in Central Venous Pressure with advancing pregnancy	(a) There is a decrease in central venous pressure with advancing pregnancy
FALSE.	
S+G 3) During labor the most physiological position is for the patient to lie on her back	The worst position for the patient is to lie on her back since the weight of the uterus on the inferior vena cava results in pooling of blood in the lower extremeties and venous return to heart is decreased with resulting hypotension which is reflected to the fetus.
True or False:	
FALSE	

continued/....

Sample Self-Assessment Questions

Journal (please type) ______ Page 2. Section E.

Article Title CENTRAL VENOUS PRESSURE IN SUPINE POSITION DURING NORMAL PREGNANCY

Senior Author: Colditz, R. B., & Josey W. E. Publication Date ______

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
3) continued/...	This is well demonstrated by fetal heart rate patterns.
S 4) The use of the central venous pressure in interpreting hypovolemic shock becomes most valuable in bleeding problems in the third trimester the patient should be transfused if central venous pressure is lower than 5 c. m. of H20 True or False FALSE	The average central venous pressure in the third trimester averaged 3. 8 c. m. Therefore the central venous pressure as an indicator must be balanced for transfusion by the overall clinical picture REF: Central venous Pressure in Supine position during normal Pregnancy. Colditz, R. B., and Josey W. E. Obst. and Gynec V. 36 No. 5 November 1970

Journal (please type) American Journal of Obstetrics and Gynecology

Article Title Obstetric and gynecologic considerations of dwarfism

Senior Author: John E. Tyson

Publication Date 11/1/70

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
Normally proportioned dwarfs are referred to as ateliotic and the ajority have an isolated deficiency of rowth hormone. These patients exhibit all but one of the following: a. Abnormalities of insulin secretion. b. Hypercholesterolemia c. Hypertriglyceridemia d. Sexual maturation is delayed e. Diabetic retinopathy esignation: S, SG and G	Answer: E Annotation: Growth hormone influences the intermediary metabolism of protein, carbohydrate and lipids. Diabetic retinopathy is not encountered in the ateliotic dwarfs although microangiopathic lesions do occur in hemochromatosis and other entities where carbohydrate intolerance is observed. References: Merimee, T.J., Fineberg, S.E., McKusick, V.A. and Hall, J.D. (1970), J.Clin.Invest. 49:1096. Merimee, T.J., Siperstein, M.D., Hall, J.D. and Fineberg, S.E. (1970), J. Clin. Invest. 49:2161. Merimee, T.J., Felig, P., Marliss, E., Fineberg, S.E. and Cahill, G.G. (1971), J. Clin. Invest. 50:574. Tyson, J.E., Barnes, A.C., McKusick, V.A., Scott, C.I. and Jones, G.S. (1970), Am. J. Obstet. Gynec. 108:688. Zierler, K.L. (1968), In: Clinical Endocrinology. E.B. Astwood and C.E. Cassidy, Editors. Volume II, Amsterdam, p. 55.
The single most important objective of prenatal care in a dwarf pregnancy is: a. Lipid homeostasis b. Prevention of glycosuria c. Prevention of megaloblastic anemia d. REcognition of impaired cardio-respiratory function. e. Prevention of tetany. Designation: S, SG and G	Answer: D Annotation: Severe degrees of kyphoscoliosis commonly result in serious cardiopulmonary problems with cor pulmonale a frequent complication. In patients who exhibit inadequate cardiac reserve, termination of the pregnancy should be considered. References: Bender, S. (1965), Brit.J.Med. 2:1166. Jones, D.H. (1964), Lancet 1:517. Mendelson, C.L. (1948), Am.J.Obstet.Gynec. 56:457. Tyson, J.E., Barnes, A.C., McKusick, V.A., Scott, C.I. and Jones, G.E. (1970), Am. J. Obstet. Gynec. 108:688.

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Article Title Obstetric and gynecologic considerations of dwarfism

Senior Author: John E. Tyson Publication Date 11/1/70

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
One of the following is true concerning achondroplasia: a. It is the least common variety of disproportionate dwarfism. b. It is transmitted as an autosomal recessive. c. Commonly associated with cleft palate. d. Associated with advanced paternal age. e. Frequently associated with hyper-extension of the elbows. signation: S, SG and G	Answer D. Annotation: Achondroplasia is the commonest variety of disproportionate dwarfism and is transmitted as an autosomal dominant. In addition to exaggerated lumbar lordosis, bowing of the legs, limited extension of the elbows, it has been shown that advanced paternal age is a factor. References: Murdock, J.L., Walker, B.A., Hall, J.G., Abbey, H., Smith, K.K. and McKusick, V.A. (1969), Ann. Hum. Genet. 33:227. Tyson, J.E., Barnes, A.C., McKusick, V.A. Scott, C.I. and Jones, G.S. (1970), Am. J. Obstet. Gynec. 108:688.
In the etiology of dwarfism one ould consider all but one of the llowing: a. Nutritional deficiencies b. Endocrine imbalance c. Emotional stress d. Neurofibromatosis e. Congenital heart disease Designation: S, SG and G	Answer D. Annotation: The differential diagnosis of excessively short stature should commence with a consideration of those bone, nutritional and circulatory disorders which one associates with skeletal abnormalities: chondrodystrophy, rickets, osteogenesis imperfecta, tuberculosis of the spine, celiac disease, cystic fibrosis, chronic nephritis, hepatic disease, congenital heart disease and bronchiectasis. This statement pertains particularly to the adolescent. References: Powell, G.F., Brasel, J.A. and Blizzard, R.M. (1967), New Eng.J.Med. 276:1271. Tanner, J.M. (1962), Growth at Adolescence Blackwell Scientific Publications, Oxford, pp. 638. Tyson, J.E., Barnes, A.C., McKusick, C.A., Scott, C.I. and Jones, G.S. (1970), Am. J. Obstet. Gynec. 108:688.

Sample Self-Assessment Questions

Journal (please type) American Journal of Obstetrics and Gynecology

Article Title Renal hemodynamic effects of oxytocin in antepartal and postpartal women

Senior Author: Robert A. Munsick Publication Date 11/1/70

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
A healthy 25-year-old patient with an intrauterine fetal demise due to erythroblastosis fetalis at 34 weeks gestation is admitted to hospital for induction of labor. After the infusion of 240 i.u. of oxytocin in 9 liters of 5 percent dextrose in water in a period of 12 hours, the patient has a convulsion and is comatose. The most likely diagnosis is: a. Eclampsia b. Epilepsy c. Amniotic fluid embolus d. Water intoxication e. Diabetic coma Answer: C Designation: S, SG, G	Annotation: This case outlines the pathogenesis of an iatrogenic entity due to the massive infusion of electrolyte free fluid with oxytocin which has anti-diuretic properties. The correct treatment is the infusion of 3 percent saline at the rate of 50 mls per hour. References: Burt, R.L., Oliver, K.L. and Whitener,D.L. (1969), Obstet. Gynec. 34:212. Lilien, A.A. (1968), Obstet. Gynec. 32:171 Munsick, R.A. and Gresham, E.M. (1970), Am. J. Obstet. Gynec. 108:729. Saunders, W.G. and Munsick, R.A. (1966), Am. J. Obstet. Gynec. 95:5.
It is considered that the major mechanism involved in oxytocin-provoked antidiuresis is a direct pharmacologic effect on: a. Glomerular filtration rate b. Renal plasma flow c. Descending loop of henle d. Efferent glomerular arterioles e. Distal convoluted tubule and collecting ducts. Answer: E Designation: S	Annotation: Renal clearance studies using inulin, para-aminohippurate, creatinine as well as urine flow rates, osmolar clearances and free water clearances in 12 antepartum and 14 postpartum hydrated subjects during oxytocin infusion were reported by Munsick and Gresham (1970). The antidiuretic effect of the oxytocin was found to be due to water absorption from the renal distal convoluted tubules and collecting ducts. References: Munsick, R.A. (1965), Am. J. Obstet. Gynec 93:442. Munsick, R.A. and Gresham, E.M. (1970), Am. J. Obstet. Gynec. 108:725.

Sample Self-Assessment Questions

Journal (please type) American Journal of Obstetrics and Gynecology

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
Studies have shown that the dose of oxytocin administered by infusion bears no relationship to the antidiuretic effect of the drug. Answer: False Designation: S, SG	Annotation: Profound antidiuresis occurs when oxytocin is administered at the rate of 100 mu per minute but is further increased when the drug is administered at the rate of 1000 mu per minute. On the other hand, the antidiuretic effect is much less when the infusion is at the rate of 20 mu per minute. References: Munsick, R.A. (1965), Am. J. Obstet. Gynec. 93:442. Munsick, R.A. and Gresham, E.M. (1970), Am. J. Obstet. Gynec. 108:725.

Sample Self-Assessment Questions

Journal (please type) American Journal of Obstetrics and Gynecology

Article Title Cardiovascular Effects of Oxytocic Drugs Used Post Partum

Senior Author: Charles H. Hendricks, M.D. Publication Date 11/1/70

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
The rapid intravenous administration of 10 i.u. of oxytocin to a patient with uterine atony will cause all but one of the following: a. Hypotension within 30 seconds b. Bradycardia within 30 seconds c. Changes in EKG specifically flattening of inversion of T waves d. Tetanic uterine contractions within 30 seconds e. Uterine contractions that persist for about 3 minutes signation: S, SG	Answer B. Annotation: The intravenous administration of a bolus of 10 i.u. of oxytocin may produce a severe reaction in a patient in shock from postpartum hemorrhage due to accentuation of the hypotension and consequent tacchycardia. The extent of the hypotension and the recovery time varies with the dose administered. A toxic dose of oxytocin may tip the balance in a patient who is injepardy due to shock. References: Bergquist, J.R. and Kaiser, I.H. (1959), Obstet. Gynec. 13:360. Hendricks, C.H. and Brenner, W.E. (1970), Am. J. Obstet. Gynec. 108:751. Mayes, B.T. and Shearman, R.P. (1956), J. Obstet. Gynaec. Brit. Comm. 63:812.
All but one of the following statements are true concerning oxytocin: a. It is an octapeptide b. It has a biological half-life of approximately three minutes c. When administered by constant infusion in a dose not exceeding 200 mu per minute it has no demonstrable effect on the cardiovascular system. d. It produces an elevation in serum nonesterified fatty acids e. It is only stored and not synthesized in the posterior pituitary. signation: S	Answer C. Annotation: Administration of oxytocin intramuscularly, subcutaneously or by dilute infusion (not in excess of 20 mu per minute) rapidly increases uterine activity without any accompanying cardiovascular response. References: Burt, R.L., Leake, N.H. and Dannenburg, W.N. (1963), Obstet. Gynec. 21:708. Coch, J.A., Brovetto, J., Cabot, H.M., Fielitz, C.A. and Caldeyro-Barcia, R. (1965), Am. J. Obstet. Gynec. 91:10. Hendricks, C.H. and Brenner, W.E. (1970), Am. J. Obstet. Gynec. 108:751. Sachs, H., Fawcett, P., Takabatake, Y. and Portanova, R. (1969), Rec. Prog. Horm. Res. 25:447.

Sample Self-Assessment Questions

Journal (please type) American Journal of Obstetrics and Gynecology

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Senior Author: Charles H. Hendricks, M.D. Publication Date 11/1/70

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
The commonest indication for the prophylactic use of oxytocics in a postpartum patient is: a. Patient has severe pre-eclampsia b. Pregnancy complicated by pyelonephritis c. Pregnancy complicated by heart disease d. Patient delivered under general anesthesia e. Breech delivery Designation: S, SG and G	Answer D. Annotation: The term oxytocic includes both oxytocin and the ergot derivative, and the latter should not be used in severe pre-eclampsia as they accentuate the hypertension. By far the commonest etiology of postpartum uterine atony is the use of general anesthesia. References: Baillie, T.W. (1963), Brit. Med. J.1:585. Bonica, J.J.: In Principles and Practice of Obstetric Analgesia and Anesthesia, F.A. Davis Co., Philadelphia, p. 320. Hendricks, C.H. and Brenner, W.E. (1970) Am. J. Obstet. Gynec. 108:751. Ringrose, C.A.D. (1962), Canad. Med. Assoc. J. 87:712. Theobald, G.W. (1968), Obstet. Gynec. Survey, 23:109.
Oxytocics are administered to the postpartum patient after prolonged labor or pregnancy complicated by all but one of the following: a. Polyhydramnios b. Large baby c. Twins d. Partial abruptio placentae e. Pulmonary edema Designation: SG and G	Answer E. Annotation: It is well established that postpartum hemorrhage is more frequently encountered in the grande multipara, also in overdistension of the uterus, (multiple pregnancy, polyhydramnios, large baby) and following antepartum hemorrhage. Therefore prophylactic oxytocics postpartum are indicated. On the other hand in the presence of pulmonary edema and cardiac disease they are contraindicated. References: Hendricks, C.H. and Brenner, W.E. (1970), Am. J. Obstet. Gynec. 108:751 Theobald, G.W. (1968), Obstet. Gynec. Survey 23:109.

Sample Self-Assessment Questions

Journal (please type) American Journal of Obstetrics and Gynecology

Article Title Experience with induction of ovulation

Senior Author: S. C. MacLeod Publication Date 11/1/70

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
If a patient has amenorrhea of ypothalamic origin and no FSH excretion clomiphene is ineffective. esignation: S, SG and G	Answer: True Annotation: The presence of FSH is important for follicular maturation and subsequent ovulation. In the absence of an intact hypothalamic-pituitary axis clomiphene is ineffective. References: MacLeod, S.C., Mitton, D.M., Parker, A.S. and Tupper, W.R.C.(1970), Am. J. Obstet. Gynec. 108:814. Mahesh, V.B. and Goldman, B.D. (1971), In Proceedings of the Third International Congress on Hormonal Steroid, Eds.James, V.H.T. and Martin, L. Excerpta Medica, Amsterdam. p. 662. Ross, G.T., Cargille, C.M., Lipsett, M.B., Rayford, P.L., Marshall, J.R., Strott, C.A. and Rodbard, D. (1970), Rec. Prog. Horm. Res. 26:1.
Secondary amenorrhea and galactorrhea ave been associated with all but one f the following: a. Reserpine therapy b. Acromegaly c. Progestogen therapy d. Myxedema e. Tranquilizers signation: S, SG and G	Answer: D. Annotation: Tranquilizers, certain anti-hypertensive agents and exogenous steroids may suppress the prolactin-inhibiting center thereby removing prolactin secretion from hypothalamic control. References: Bolognese, R.J., Piver, M.S. and Feldman, J.D. (1967), J.A.M.A. 199:42. Klein, J.J., Segal, R.L. and Warner, R.R. (1964), N.Eng. J. Med. 271:510 MacLeod, S.C., Mitton, D.M., Parker, A.S. and Tupper, W.R.C. (1970), Am. J. Obstet. Gynec. 108:814. Platt, R., and Sears, H.T.N. (1956), Lancet 1:401. Shearman, R.P. (1968), Lancet 1:325.

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
Gonadotropin therapy for the induction of ovulation in order to avoid ovarian hyperstimulation should be monitored by daily changes in: a. Cervical mucus b. Vaginal cytology c. Ovarian size d. Urinary pregnanediol e. Urinary estrogens Designation: S and SG	Answer E. Annotation: The determination of estrogens prior to the administration of HCG is effective as a method to predict and thereby circumvent the ovarian hyperstimulation. If the total estrogens do not exceed 150μg per day the eventuation of this iatrogenic condition is negligible References: Brown, J.B., Evans, J.H., Adey, F.D., Tafe, H.P. and Townsend, L. (1969), J. Obstet. Gynaec. Brit. Comm. 76:289. Engel, T., Jewelewicz, R., Dyrenfurth, I., Speroff, L. and VandeWiele, R.L. (1972), Am. J. Obstet. Gynec. 112:1052. MacLeod, S.C., Mitton, D.M., Parker, A.S. and Tupper, W.R.C. (1970), Am. J. Obstet Gynec. 108:814. Taymor, M., Yussman, M. and Gminski, D., (1970), Fertil. and Steril. 21:759.

Sample Self-Assessment Questions

Journal (please type) American Journal of Obstetrics and Gynecology

Article Title · Suppurative pelvic thrombophlebitis

Senior Author: Conrad G. Collins Publication Date 11/1/70

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
The least important of the collaterals for the venous return from the pelvis subsequent to ligation of the inferior vena cava and the ovarian veins are: a. Intervertebral venous plexus b. Lumbar venous plexus c. Hemorrhoidal plexus and vertebral azygos d. Superficial and deep veins of the abdominal wall Designation: S and SG	Answer D. Annotation: There is a good anastomotic plexus of veins in the pelvis as evidenced by the fact that normal pregnancies frequently ensue following ligation of the inferior vena cava and ovarian veins. References: Collins, C.G. and Ayers, W.B. (1951), Surgery 30:319. Collins, C.G. (1970), Am. J. Obstet. Gynec. 108:681. Reid, D.E., Ryan, K.J. and Benirschke, K. (1972), Principles and Management of Human Reproduction, W.B. Saunders Co., Philadelphia, p. 695. Robinson, L.S. (1949), Surgery 25:329.
Ligation of the inferior vena cava and the ovarian veins usually results in: a. Amenorrhea b. Menorrhagia c. Anovulation d. Infertility e. Normal ovarian function Designation: S, SG and G	Answer E. Annotation: In pregnancies subsequent to this operative procedure the patients have no more complications than those where no pelvic venous ligation had been performed. References: Collins, J.H., Bosco, J.A.S. and Cohen, C.J. (1959), Am. J. Obstet.Gynec 77:760. Collins, C.G. (1970), Am. J. Obstet.Gynec 108:681. Lynch, J.K., Sreenivas, V. and Peliccia, O. (1966), New Eng. J. Med. 255:1112.

Sample Self-Assessment Questions

Journal (please type) American Journal of Obstetrics and Gynecology

Article Title Supperative pelvic thrombophlebitis

Senior Author: Conrad G. Collins Publication Date 11/1/70

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Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
Suppurative pelvic thrombophlebitis s usually limited to the uterine veins. **Designation**: SG and G	Answer. False Annotation: Supperative pelvic thrombophlebitis is frequently a difficult diagnostic problem and has to be differentiated from other pelvic infections. There may be an irregular septic fever and abdominal examination may elicit tenderness along the course of the ovarian veins. Autopsy studies have revealed involvement of the ovarian, ileo-femoral and hypogastric veins. References: Brown and Munsick, R.A. (1971) Am. J. Obstet. Gynec. 109:263. Collins, C.G. (1970), Am. J. Obstet. Gynec 108:681. Montalto, Block, Malfetano and Janelli (1969), Obstet. Gynec. 34:367. Reid, D.E., Ryan, K.J. and Benirschke, K. (1972), Principles and Management of Human Reproduction, W.B. Saunders Co., Philadelphia, p. 695.

Sample Self-Assessment Questions

Journal (please type) Annals of Surgery

Article Title Thickness, Cross-Sectional Areas and Depth of Invasion in the Prognosis of Cutaneous Melanoma

Senior Author: Alexander Breslow, M.D. Publication Date Nov., 1970

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
( ) 1. Prognosis of cutaneous melanoma appears to be a function of: A. tumor size B. extent of invasion C. anatomic location D. all of the above	D.
(G) 2. Useful adjunctive therapy for advanced melanoma is: A. Regional perfusion with 5 F.U. B. Regional perfusion with phenylalanine mustard C. Corticosteroids D. Irradiation	B. Reference: Schwartz, S., Textbook of Surgery. McGraw Hill, 1969. p. 399.
(S) 3. Melanomas: A. are frequently seen in Negroes B. are common before puberty C. are often associated with pre-existing compund nevi D. have been reported to spontaneously regress	D. Reference: Ibid., p. 399.

Sample Self-Assessment Questions

Journal (please type) Annals of Surgery

Article Title Control of Infection after Thoracic and Cardiovascular Surgery

Senior Author: Joseph S. Carey, M.D.

Publication Date Nov., 1970

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
(S) 1. The preferred antibiotic regimen to prevent endocarditis following cardiovascular surgery is: A. I.V. Penicillin and Methicillin B. I.M. Penicillin and Streptomycin C. I.V. Ampicillin D. I.M. Penicillin and Methicillin	A. Prophylactic regimens of intramuscular antibiotics have been ineffective in reducing the incidence of postoperative endocarditis. Intra=and post-operative administration of I.V. penicillinase resistant penicillins has resulted in zero cases of endocarditis among 216 consecutive patients.
(G,S) 2. The most common organism found in wound infections, following cardiovascular surgery is: A. Staphylococcus B. Streptococcus C. E.coli D. Pseudomonas sp.	A. In this series, 40% of infections were secondary to staphylococcus aureus or albus species.
(S) 3. The incidence of postoperative wound infection in patients undergoing major cardiovascular surgery, involving cardiopulmonary bypass is: A. Lower than in patients not undergoing cardiopulmonary bypass B. About 7% C. Unrelated to bank blood D. About 1%	B. Wound infections were encountered in 6.9% of patients undergoing cardiopulmonary bypass and in only 1.5% of patients in the non-bypass group. About 1-2% of units of bank blood have been shown to contain bacteria, principally staphylococci and diptheroids.

Sample Self-Assessment Questions

Journal (please type) Anals of Surgery

Article Title Comparative Evaluation of Ligation and Partial Interruption of the Femoral vein in the Treatment of Thromboembolic Disease

Senior Author: James T. Adams, M.D. Publication Date Nov., 1970

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
(S) 1. Significant stasis complications following ligation or plication of inferior vena cava are generally thought to be secondary to: A.The level of the ligation or plication B.The severity of pre-existing venous disease C.Inadequate post-operative anti-coagultion D.Inadequate post-operative external support	**B.** The status of the venous collaterals largely determines the venous return , and if these are occluded by pre-existing phlebitis, significant stasis changes will result, regardless of the other factors.
(G,S,)2. Postoperative anticoagulation is usually administered after inferior vena cava ligation or plication in order to: A.Prevent further propagation of pre-existing thrombus B.Lyse pre-existing thrombus C.Lyse occult pulmonary emboli D.None of the above	**A.** Heparin is not a fibrinolytic compound, and is therefore incapable of lysing formed thrombus. The venous stasis created by caval ligation may cause extension of pre-existing thrombus proximally, occluding collateral venous tributaries, aggravating the venous stasis syndrome.
(S)(G)3. Indications for ligation or plication of the inferior vena cava are: A.A solitary instance of pulmonary embolism B.Platelet count more than one million when anticoagultion is contraindicated C.Superficial venous thrombosis when anticoagulation is contra-indicated D.Residual thrombi in the calf or femoral veins, following venous thrombectomy	**D.** Although some studies have reported a 30% risk of recurrence with a 18% mortality following a solitary pulmonary embolus, most surgeons prefer to withold caval interruption until after a second embolus occurs, or if a contra-indication to anticoagulation arises. Hyper-coaguable states can be managed with agents such as Dextran, and superficial venous thrombosis is a very rare cause of pulmonary embolism. Residual thrombi, however, often break loose and embolize post-operatively, even with adequate anti-coagulation, and are an indication for caval interruption.

Sample Self-Assessment Questions

Journal (please type) ANNALS OF SURGERY

Article Title EVALUATION OF A METHOD FOR RECONSTRUCTION OF THE ESOPHAGOGASTRIC JUNCTION, AND THE APPLICATION TO ACHALASIA

Senior Author: Tsuyoshi Hirashima, M.D. Publication Date Nov. 1970

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
S. (1) The goal of surgical treatment of achalasia is: (a) Create a new gastroesophageal angle (b) Keep the stomach below the diaphragm (c) Dilate the lower esophagus without damaging physiologic function. (d) Prevent reflux esophagitis	c. As the major pathological change in achalasia is obstruction, its correction received first priority.
S. (2) The authors stress that the patch originate with a wide base from the (a) stomach, (b) esophagus because: (c) This prevents esophagitis (d) A wider opening is obtained (e) The stomach wall has a good blood supply	a, d The stomach patch is used to insure a wider opening.
S. (3) Postoperative reflux can best be measured by: (a) Biopsy (b) Esophagoscopy (c) X-ray (d) Pressure and pH changes	d Though the other methods are acceptable, pressure and pH change provide the most reliable method.

Sample Self-Assessment Questions

Journal (please type) ANNALS OF SURGERY

Article Title SURGICAL TREATMENT OF CHOLEDOCHAL CYST

Senior Author: Morio Kasai, M.D.

Publication Date Nov. 1970

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
S. (1) The most satisfactory surgical procedure for choledochal cyst is: a.) Internal drainage of the cyst b.) Resection of the cyst with Roux-en-Y hepaticojejunostomy c.) Resection of the cyst and reconstruction of the common duct	b Resection, coupled with internal drainage, offers the most satisfactory method of therapy.
G.S. (2) In addition to upper G.I. series a useful diagnostic aide is: a.) Oral cholecystogram b.) Intravenous cholangiography c.) Hepatic biliary scintigram	c Hepatic biliary scintigram is very useful in depicting the cyst.
G.S. (3) Postoperative problems include: a.) Stone formation b.) Anastomosis stricture c.) Reflux infection d.) Cirrhosis	b, c Stricture is a very common complication following biliary surgery. The author also reports a high incidence of reflux infection. Though this was common argument against the use of choledochoduodenostomy in adult, it has not proved to be the case. It is usual then to see such a high incidence in these cases.

Sample Self-Assessment Questions

Journal (please type) Surgery Gynecology and Obstetrics

Article Title Epidermoid Carcinoma of the Anorectum

Senior Author: Maus Stearns, Jr., M.D. Publication Date 1970

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
1. Of carcinoma occurring within the last 18 centimeters of alimentary tract, the approximate percentage being epidermoid will be: A) less than 1% B) 2% C) 10% D) 20%	B. By including a large number of colon cancers, the incidence of epidermoid carcinomas becomes quite los. If we consider only those carcinomas occurring in the distal 2 cms., then 30% will be epidermal.
2. The appearance of inguinal node metastases following ressection for epidermoid carcinoma of the rectum is: A) associated with a 75% 5 year survival rate B) associated with a 50% 5 year survival rate C) associated with a 20% 5 year survival rate D) associated with a less than 10% 5 year survival rate	A. Unlike the occurrance of nodal metastases at the time of diagnosis, late metastasis carry a very high 5 year survival rate.
3. The operation of choice for a small epidermoid carcinoma not penetrating the sphincter is: A) Abdominal perineal with prophylactic inguinal node dissection B) Abdominal perineal with therapeutic node dissection C) Wide local excision with prophylactic node dissection D) Wide local excision with therapeutic node dissection	D. According to the authors' study, wide local excision is the primary treatment of choice in this type of lesion. Therapeutic node dissection is favored because only about 10% at most would have benefited from prophylactic node dissection

Sample Self-Assessment Questions

Journal (please type) Surgery Gynecology and Obstetrics

Article Title Total Circulating Albumin Deficits Occurring with Extensive Surgical Procedures.

Senior Author: Robert Hoye, M.D. Publication Date 1970

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
1. The cause of postoperative hypoproteinenimia is felt to be due to: A) Decreased Albumin Production B) Increased Albumin Production C) Increased Capillary Permeability D) External Loss Only	C. Hypoproteinenimia is felt to be due to decrease in the size of the circulating pool secondary to an extravasation of albumin into the extravascular space.
2. Protein lost through nasogastric suction in uncomplicated cases is: A) Negligable B) 1 gram per day C) 5 grams per day D) 10 grams per day	B. Though gastric losses can approach 5 grams per day in cases complicated by gastriotomy and paralytic ileus, the normal loss is 1 gram per day.
3. A mean total exchangeable albumin deficit of 30% represents a net loss of: A) 20 grams albumin B) 40 grams albumin C) 60 grams albumin D) 80 grams albumin	D. The total exchangeable albumin is about 4 grams/kilogram. In a 70 kilogram man, this represents 280 grams of albumin. A 30% deficit would represent a loss of approximately 80 grams

Sample Self-Assessment Questions

Journal (please type) Surgery Gynecology and Obstetrics

Article Title Roentgenographic Evaluation of Traumatic Rupture of Aorta

Senior Author: Marvin Kirsh, M.D. Publication Date

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
1. Acute rupture of the thoracic aorta secondary to trauma is associated with immediate death in: A) 100% B) 90% - 80% C) 75% - 50% D) less than 50%	B. The formation of pseudoaneurysm prevents the immediate mortality from being 100%.
2. In this paper, rupture of the aorta was always associated with: A) evidence of chest trauma B) deviation of the trachea C) depression of left mainstem bronchus D) widening of mediastinum	D. Though the other findings are important diagnostic considerations, only widening of mediastinum was present in 100%
3. The natural history of pseudoaneurysm of the thoracic aorta is: A) spontaneous regression B) rupture within 1 to 4 weeks C) rupture within 1 to 4 months D) insignificant to survival	B. Because of the rather "flimsy" adventitial structures around the ruptures, these pseudoaneurysms usually rupture within 1 month.
4. The area where most lacerations of the thoracic aorta, secondary to trauma, occur is: A) Just distal to the ductus arteriolosus B) Ascending aorta C) Transverse aorta D) Junction of subclavian with aorta	A. Though not alluded to in this article, rupture usually occurs just distal to the Ductus. This area is fairly well secured to the vertebral column and abrupt deceleration tears the descending aorta at this spot.

Sample Self-Assessment Questions

Journal (please type) SURGERY, Gynecology & Obstetrics

Article Title COMPLICATIONS OF TOTAL THYROIDECTOMY FOR CARCINOMA

Senior Author: Norman W. Thompson, M.D., F.A.C.S.

Publication Date November 1970

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
S.G. (1) The reason for advocating total thyroidectomy in carcinoma of the thyroid are: a.) It decreases the chance of recurrent nerve injury. b.) There is often contralateral lobe and isthmus involvement. c.) It facilitates radio active iodine evaluation and treatment. d.) Since the parathyroids are identified, hypoparathyroidism doesn't occur.	b, c, & d. The chances of recurrent nerve injury are probably greater secondary to surgery than to infiltration by cancer.
G. (2) Arguments against total thyroidectomy arise because of the following complications: a.) Hypothyroidism b.) Hypoparathyroidism c.) Recurrent laryngeal nerve injury d.) Tracheostomy e.) Significant mortality	b, & c. Hypoparathyroidism, in contrast to hypothyroidism is very difficult to manage. Unilateral recurrent nerve injury is bad enough; bilateral injury is disastrous.
G. (3) Hypoparathyroidism may be treated with: a.) Oral calcium b.) I.V. calcium c.) Oral vitamin D d.) I.V. vitamin D e.) Oral parathormone	a, b, & c. Hypoparathyroidism is adequately managed by these three agents. There is no need for the other methods.

D

Sample Self-Assessment Questions

Journal (please type) SURGERY, Gynecoloty & Obstetrics

Article Title SURGICAL MANAGEMENT OF CUTANEOUS LYE BURNS

Senior Author: F. G. Wolfort, M.D. Publication Date Nov. 1970

In the space below please type multiple choice questions and answers generated from the article listed above. Questions and answer choices should appear in the lefthand column; correct answers, annotations and references should appear in the righthand column. Indicate whether a questions is specialist-applicable, generalist-applicable, or applicable to both groups by putting a "S", "G" or "SG" in the margin to the left of each question. Return to PMI, 30 The Fenway, Boston, Mass. 02215.

Questions; Answer Choices; & S, G, SG Designation	Correct Answers; Annotations; and References
G.S. (1) Lye burns are (a) less severe (b) more severe than thermal burns because lye: c.) Saponifies fat d.) Extracts water e.) Forms alkaline protenates f.) Generates heat	b, c, d, e, f All of these factors make lye burns particulary dangerous.
G.S. (2) Treatment of lye burns includes: (a) Topical antibiotics (b) Washing with hexacloraphene (c) Tub baths (d) Frequent or continuous showers	a, d One of the major considerations is dilution of the alkaline agent; this is best achieved by shower.
S. (3) Peculiar complications of lye burns are: (a) Tympanic membrane perforations (b) Parotid cutaneous fistulas (c) Alkalosis (d) Shock due to fluid loss because of: (e) An exothermic reaction (f) Most lye is swallowed (g) The liquid nature of most lye	a, b, g The liquid nature of most lye allows penetration into areas where thermal burn have little effect.